Service
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Service Manual

Horizontal Frequency

30-80 kHz

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SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFOMER FOR THIS UNIT WHEN SERVICING

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all AOC Company Equipment. The service procedures recommended by AOC and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. AOC could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, AOC has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by AOC must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.
Hereafter throughout this manual, AOC Company will be referred to as AOC.

WARNING
Use of substitute replacement parts, which do not have the same, specified safety characteristics might create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from AOC. AOC assumes no liability, express or implied, arising out of any unauthorized modification of design.
Servicer assumes all liability.

FOR PRODUCTS CONTAINING LASER:
DANGER-Invisible laser radiations when open AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
CAUTION -The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.
Take care during handling the LCD module with backlight unit
-Must mount the module using mounting holes arranged in four corners.
-Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
-Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
-Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
-Make certain that treatment person’s body is grounded through wristband.
-Do not leave the module in high temperature and in areas of high humidity for a long time.
-Avoid contact with water as it may a short circuit within the module.
-If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

Revision List

Version	Date	Revision History	Remark
A00	Jan.-18-2010	Initial release	TI9AA8NB6WA2PNE
			TI9AA8NQ6WA16NE
A01	Mar.-23-2010	Add new Model	TI9AA8NC6WA25NE
A02	Jun.-17-2010	Add new Models	TI9AA8NC6WA35NE
			TI9AA8NB6WA2PGE
A03	Aug.-26-2010	Add new Models (715G2883 1 6; 715G3189P02LED001S 715G3649P01000004S; TPV TPM215HW01)	TI94A8NB6WA1PNE
			TIAAA82E6WA1PNE

1. Monitor Specification

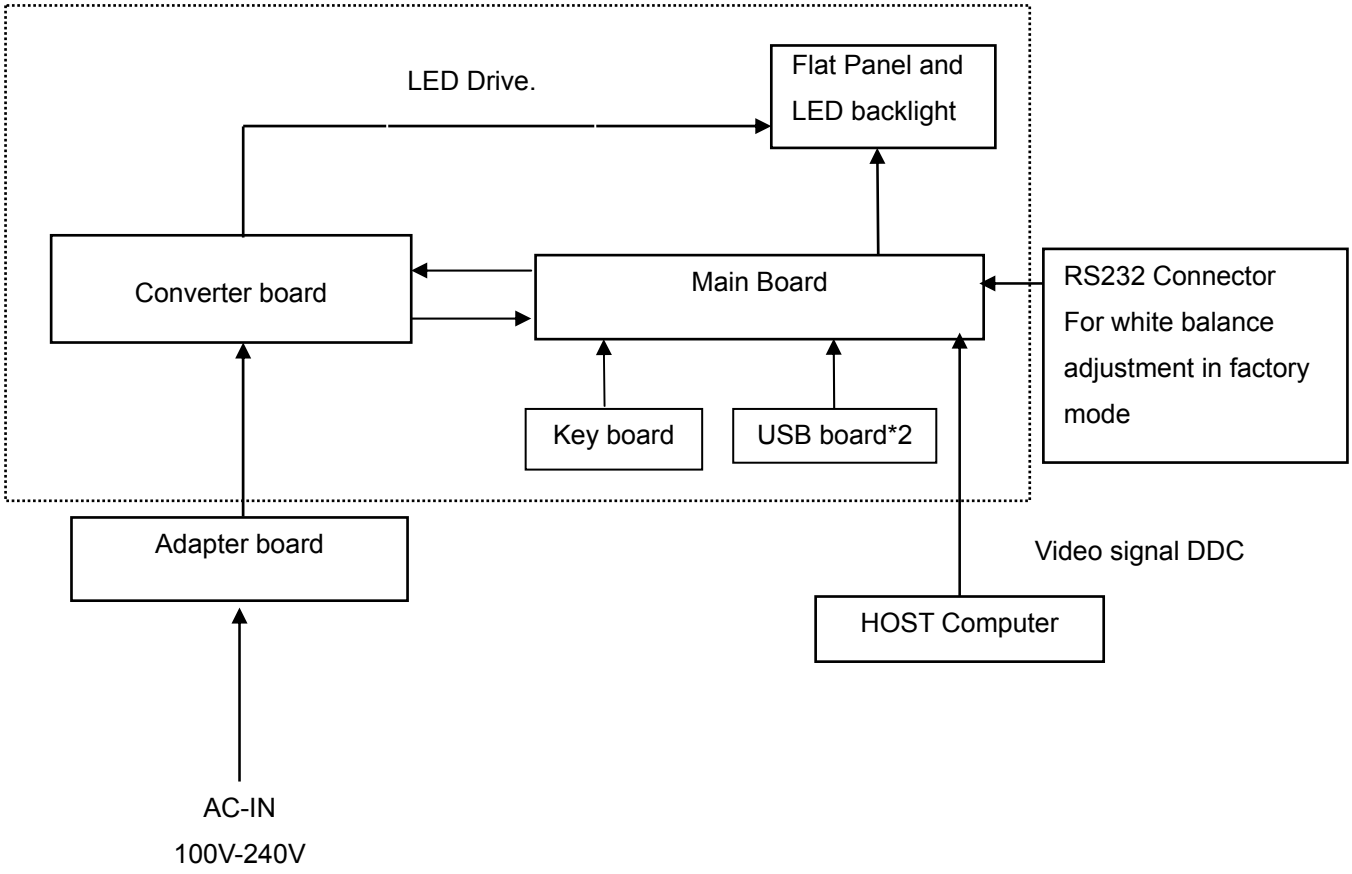
LCD Panel	model name	e2236Vwa	
	Driving system	TFT Color LCD	
	Viewable Image Size	54.7cm diagonal	
	Pixel pitch	0.248mm(H) x 0.248mm(V)	
	Video	R, G, B Analog Interface & Digital Interface	
	Separate Sync.	H/V TTL	
	Display Color	16.7M Colors	
	Dot Clock	148.5 MHz	
Resolution	Horizontal scan range	30 kHz - 80 kHz	
	Horizontal scan Size(Maximum)	476.64mm	
	Vertical scan range	55 Hz - 75 Hz	
	Vertical scan Size(Maximum)	268.11mm	
	Optimal preset resolution	1920 x 1080 (60 Hz)	
	Highest preset resolution	1920 x 1080 (60 Hz)	
	Plug & Play	VESA DDC2B/CI	
	Input Connector	D-Sub 15pin & DVI-D	
	Input Video Signal	Analog: 0.7Vp-p(standard), 75 OHM, TMDS	
	Power Source	100-240V~， 50/60Hz	
	Power Consumption	Typical < 42 W	
		Standby < 1 W	
	USB Downstream port (A type)	To USB device, loading < 100mA	
	off timer	0~24hours	Select timing to turn off the monitor.
	Speakers	2W x 2	

Physical Characteristics	Connector Type	15-pin Mini D-Sub& DVI-D	
	Signal Cable Type	Detachable	
	Dimensions & Weight:	Height (with base)	396.6 mm
		Width	531.3mm
		Depth	206mm
		Weight (monitor only)	4.35 kg
		Weight (with packaging)	5.8 kg
Environmental	Temperature:	Operating	0° to 40°
		Non-Operating	-20°to 60°
	Humidity:	Operating	10% to 85% (non-condensing)
		Non-Operating	5% to 80% (non-condensing)
	Altitude:	Operating	0~ 3000m (0~ 10000 ft)
		Non-Operating	0~ 5000m (0~ 15000 ft)

2. LCD Monitor Description

The LCD monitor will contain a main board, an adapter board, a converter board, an audio board and a key board which house the flat panel control logic, brightness control logic and DDC.
The power part will provide AC to DC Inverter voltage to drive the backlight of panel and the main board chips each voltage.

Monitor Block Diagram



3. Operating Instructions

3.1 General Instructions

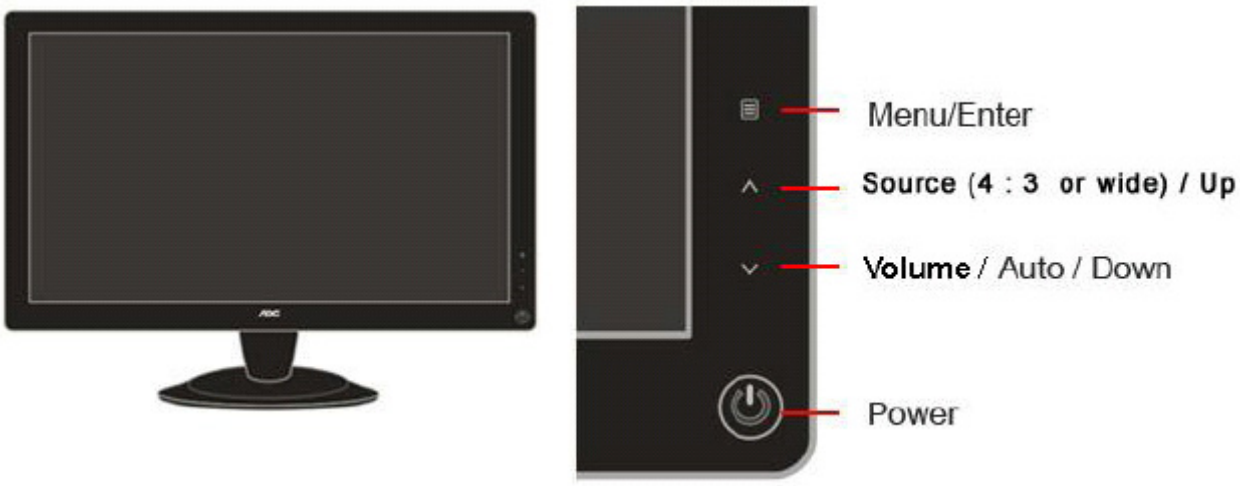
Press the power button to turn the monitor on or off. The other control buttons are located on the side of the monitor. By changing these settings, the picture can be adjusted to your personal perference.

• The power cord should be connected.

• Connect the video cable from the monitor to the video card.

• Press the power button to turn on the monitor position. The power indicator will light up.

3.2 Control Buttons



Power

Press to turn on or turn off the monitor.

Source (4 : 3 or wide)/ Up

Press ∧ key to change the screen aspect ratio between standard 4：3format or Wide format. When the input resolution is wide format, the aspect ratio hotkey is disabled. When the main menu or sub-menu is active, the ∧ key functions as to select up or increase value.

Menu / Enter

Press to activate OSD, then press Up or Down to navigate through the functions.

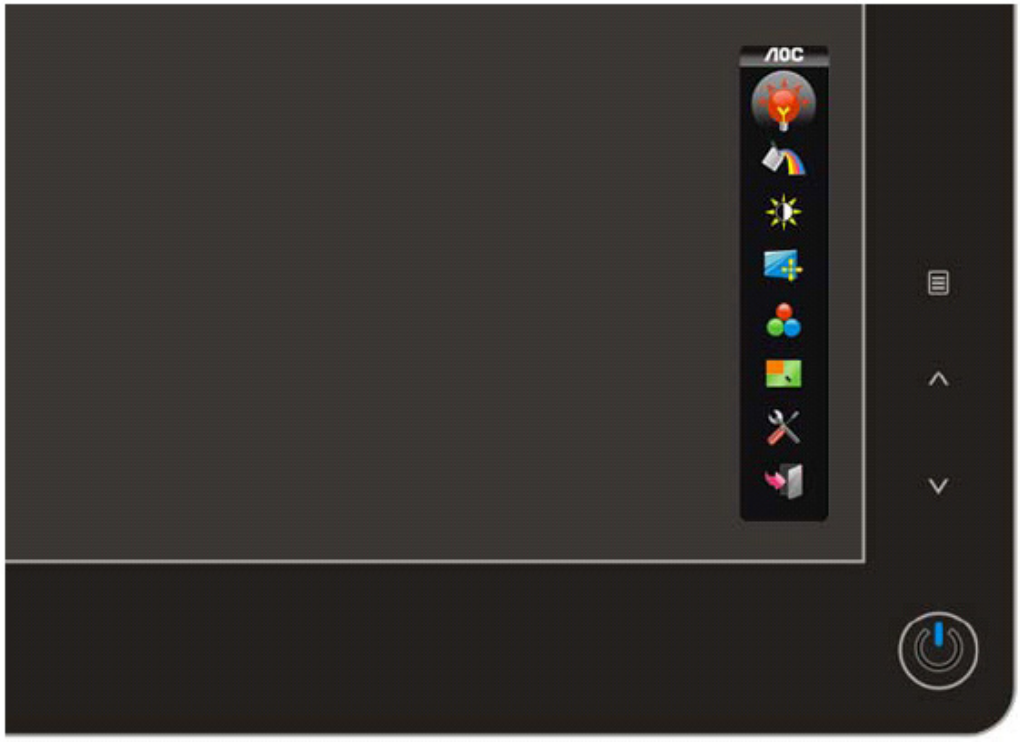
Volume(Auto) / Down

When there is no OSD, press the key to activate Volume and auto function, then press Up or Down to select Volume or Auto configure function.

3.3 Adjusting the Picture

OSD Settings

Basic and simple instruction on the control keys.



When you press the MENU button on the front control of your monitor, the On DOWN Screen Display (OSD) Main Controls window will pop up and you can then start making adjustments to your monitor's various features. Use the **UP** or **DOWN** keys to make your adjustments. Follow the steps below to activate the adjustment.

1) Press the **MENU** key to activate the OSD window.

2) Press **UP** or **DOWN** to navigate through the functions. Once the desired function is highlighted, press the MENU key to activate it. If the function selected has a sub-menu, press **UP** or **DOWN** again to navigate through the sub-menu functions. Once the desired function is highlighted, press **MENU** key to activate it.

3) Press **UP** or **DOWN** to change the settings of the selected function. Press **MENU** key to exit and save, select the exit function. If you want to adjust any other function, repeat steps 2-3.

4) OSD Lock Function: To lock the OSD, press and hold the **MENU** key while the monitor is off and then press power button to turn the monitor on. To unlock the OSD, press and hold the **MENU** key while the monitor is off and then press power button to turn the monitor on.

Function Control Illustration

	Item	Icon	Function	Adjust Range	Description
	Eco mode	DCR	DCR	Select to active	Dynamic contrast ratio
			Standard	Select to active	Standard Mode
			Text	Select to active	Text Mode
			Internet	Select to active	Internet Mode
			Game	Select to active	Game Mode
			Movie	Select to active	Movie Mode
			Sports	Select to active	Sports Mode

	Item	Icon	Function	Adjust Range	Description
	Color Boost		Full Enhance	on or off	Disable or Enable Full Enhance Mode
			Nature Skin	on or off	Disable or Enable Nature Skin Mode
			Sky-blue	on or off	Disable or Enable Sky-blue Mode
			Green Field	on or off	Disable or Enable Green Field Mode
		AUTO	Auto Detect	on or off	Disable or Enable AutoDetect Mode
			Demo	on or off	Disable or Enable Demo
		OFF	Off		Disable Color Boost
			Exit		Exit to main menu

	Item	Icon	Function	Adjust Range	Description
	Luminance		Brightness	00-100	
			Contrast	00-100	
		γ	Gamma	Gamma1, 2, 3	Adjust to Gamma1, Gamma2, Gamma3
			Exit		Exit to main menu

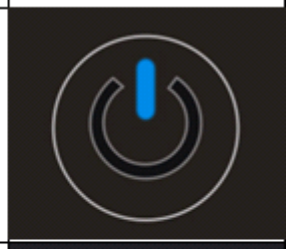
	Item	Icon	Function	Adjust Range	Description
	Image Setup		Clock	00-100	Adjust picture Clock to reduce Vertical-Line noise.
			Phase	00-100	Adjust Picture Phase to reduce Horizontal-Line noise
			H.Position	00-100	Adjust the vertical position of the picture.
			V.Position	00-100	Adjust the horizontal position of the picture.
			Exit		Exit to main menu

	Item	Icon	Function	Adjust Range	Description
	Color Temperature	R	User Red	00-100	Red Gain from Digital-register
		G	User Green	00-100	Green Gain Digital-register.
		B	User Blue	00-100	Blue Gain from Digital-register
			Normal	7300K	Recall Normal Color Temperature from EEPROM.
			Warm	6500K	Recall Warm Color Temperature from EEPROM.
			Cool	9300K	Recall Cool Color Temperature from EEPROM.
		sRGB	sRGB		Recall SRGB Color Temperature from EEPROM.
			Exit		Exit to main menu

	Item	Icon	Function	Adjust Range	Description
	Picture Boost		Horizontal Position	00-100	Adjust Frame horizontal Position
			Vertical Position	00-100	Adjust Frame vertical Position
			Contrast	00-100	Adjust Frame Contrast
			Brightness	00-100	Adjust Frame Brightness
			Frame Size	14-100	Adjust Frame Size
			Bright Frame	on or off	Disable or Enable Bright Frame
			Exit		Exit to main menu

	Item	Icon	Function	Adjust Range	Description
	Extra Setting		Language		Select the OSD language
			Reset	yes or no	Reset the menu to default
		DDC/CI	DDC-CI	yes or no	Turn ON/OFF DDC-CI Support
			Timeout	05-120	Adjust the OSD Timeout
			Transparence	00-100	Adjust the transparence of OSD
			H. Position	00-100	Adjust the vertical position of OSD
			V. Position	00-100	Adjust the horizontal position of OSD
			Off Timer	00-24	Adjust the DC off time
			Exit		Exit to main menu

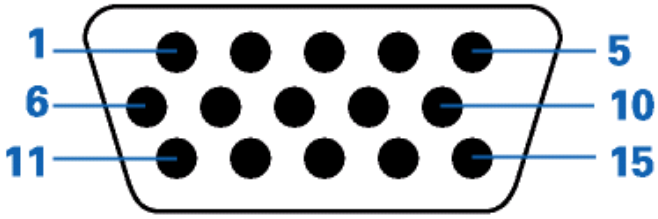
LED Indicator

Status	LED Color	
Full Power Mode	Blue	
Active-off Mode	Orange	

4. Input/Output Specification

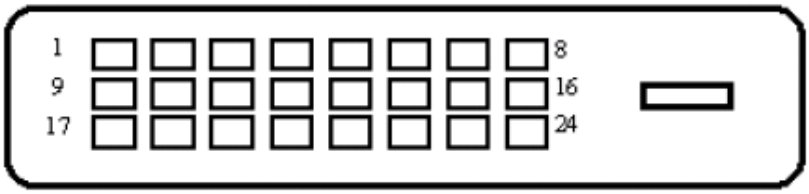
4.1 Input Signal Connector

D-SUB connector



Pin Number	15-Pin Side of the Signal Cable
1	Video-Red
2	Video-Green
3	Video-Blue
4	N.C.
5	Detect Cable
6	GND-R
7	GND-G
8	GND-B
9	+5V
10	Ground
11	N.C.
12	DDC-Serial data
13	H-sync
14	V-sync
15	DDC-Serial clock

DVI connector



Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+
6	DDC Clock	14	+5V Power	22	TMDS Clock Shield
7	DDC Data	15	Ground(for+5V)	23	TMDS Clock +
8	N.C.	16	Hot Plug Detect	24	TMDS Clock -

4.2 Factory Preset Display Modes

STAND	RESOLUTION	HORIZONTAL FREQUENCY(kHZ)	VERTICAL FREQUENCY(Hz)
VGA	640×480 @60Hz	31.469	59.940
VGA	640×480 @67Hz	35.000	66.667
VGA	640×480 @72Hz	37.861	72.809
VGA	640×480 @75Hz	37.500	75.000
Dos-mode	720×400 @70Hz	31.469	70.087
SVGA	800×600 @56Hz	35.156	56.250
SVGA	800×600 @60Hz	37.879	60.317
SVGA	800×600 @72Hz	48.077	72.188
SVGA	800×600 @75Hz	46.875	75.000
SVGA	832×624 @75Hz	49.725	74.550
XGA	1024×768 @60Hz	48.363	60.004
XGA	1024×768 @70Hz	56.476	70.069
XGA	1024×768 @75Hz	60.023	75.029
XGA	1024×768 @75Hz	60.241	74.927
***	1280×960 @60Hz	60.000	60.000
SXGA	1280×1024 @60Hz	63.981	60.02
SXGA	1280×1024 @75Hz	79.976	75.025
WXGA+	1440×900 @60Hz	55.935	59.887
WSXGA	1680X1050 @60Hz	65.290	59.954
HD	1920×1080@60Hz	67.500	60.000

5 Panel Specification

5.1 Display Characteristics

AUO M215HW01

This specification applies to the 21.5 inch-wide Color a-Si TFT-LCD Module M215HW01.The display supports the Full HD - 1920(H) x 1080(V) screen format and 16.7M colors (RGB 6-bits + Hi-FRC data). All input signals are 2-channel LVDS interface and this module doesn't contain an driver board for backlight.

ITEMS	Unit	SPECIFICATIONS
Screen Diagonal	[mm]	546.86(21.53")
Active Area	[mm]	476.64 (H) x 268.11 (V)
Pixels H x V		1920(x3) x 1080
Pixel Pitch	[um]	248.25 (per one triad) ×248.25
Pixel Arrangement		R.G.B. Vertical Stripe
Display Mode		TN Mode, Normally White
White Luminance (Center)	[cd/m^2]	250cd/m^2 (Typ.)
Contrast Ratio		1000 (Typ.)
Optical Response Time	[msec]	5ms (Typ., on/off)
Nominal Input Voltage VDD	[Volt]	+5.0 V
Power Consumption (VDD line + LED line)	[Watt]	15.1 (Typ.) (without driver board, all black pattern)
Weight	[Grams]	1800 (max.)
Physical Size	[mm]	495.6(W) × 292.2(H) × 9.9(D) Typ.
Electrical Interface		Dual channel LVDS
Support Color		16.7M colors (RGB 6-bit + Hi_FRC)
Surface Treatment		Anti-Glare, 3H
Temperature Range Operating Storage (Shipping)	 [°C] [°C]	 0 to +50 -20 to +60
RoHS Compliance		RoHS Compliance
TC0'03 Compliance		TC0'03 Compliance

TPV TPM215HW01

The M215H1-L01 model is a 21.5 inch wide TFT-LCD module with LED Backlight Unit and a 30-pin 2ch-LVDS interface. This module supports 1920 x 1080 Full HD (16:9 wide screen) mode and displays up to 16.7 millions colors.

Item	Specification	Unit
Diagonal size	546.86 (21.53")	mm
Active Area	476.64 x 268.11	mm
Bezel Opening Area	479.8 (H) x 271.3 (V)	mm
Driver Element	a-Si TFT active matrix	-
Pixel Number	1920 x R.G.B. x 1080	pixel
Pixel Pitch	0.248(H) x 0.248(V)	mm
Pixel Arrangement	RGB vertical stripe	-
Display Colors	16.7 millions	color
Transmissive Mode	Normally White	-
Color Gamut	68%	
Surface Treatment	Hard coating (3H), AG (Haze 25%)	-
Module Power Consumption	TBD	Watt

Item		Min.	Typ.	Max.	Unit
Module Size	Horizontal(H)	495.1	495.6	496.1	mm
	Vertical(V)	291.7	292.2	292.7	mm
	Depth(D)	11	11.5	12	mm
Weight		-	1850	2000	g
I/F connector mounting position		The mounting inclination of the connector makes the screen center within ±0.5 mm as the horizontal.			

5.2 Optical Characteristics

AUO M215HW01

Ta=25℃

Item	Unit	Conditions	Min.	Typ.	Max.
Viewing Angle	[degree]	Horizontal (Right) CR = 10 (Left)	150	170	- -
		Vertical (Up) CR = 10 (Down)	140	160	- -
Contrast ratio		Normal Direction	600	1000	-
Response Time	[msec]	Raising Time (T_{rR})	-	3.8	5.5
		Falling Time (T_{rF})	-	1.2	2.5
		Raising + Falling	-	5	8
Color / Chromaticity Coordinates (CIE)		Red x	0.607	0.637	0.667
		Red y	0.319	0.349	0.379
		Green x	0.303	0.333	0.363
		Green y	0.575	0.605	0.635
		Blue x	0.118	0.148	0.178
		Blue y	0.031	0.061	0.091
Color Coordinates (CIE) White		White x	0.283	0.313	0.343
		White y	0.299	0.329	0.359
Central Luminance	[cd/m^2]		200	250	-
Luminance Uniformity	[%]		65	70	-
Crosstalk (in 60Hz)	[%]				1.5
Flicker	dB				-20

Only / 2009/1/12

TPV TPM215HW01

Item		Symbol	Condition	Min.	Typ.	Max.	Unit
Color Chromaticity	Red	Rx	θ_x=0°, θ_Y =0° CS-1000T	Typ – 0.03	0.636	Typ + 0.03	
		Ry			0.348		
	Green	Gx			0.327		
		Gy			0.601		
	Blue	Bx			0.154		
		By			0.059		
	White	Wx			0.313		
		Wy			0.329		
Center Luminance of White		L_C		200	250	---	cd/m^2
Contrast Ratio		CR		700	1000	---	-
Response Time		T_R	θ_x=0°, θ_Y =0°	---	1.2	2.5	ms
		T_F		---	3.8	5.5	ms
White Variation		δW	θ_x=0°, θ_Y =0°	---	1.33	1.43	-
Viewing Angle	Horizontal	θ_x+	CR ≧ 10	75	85	---	Deg.
		θ_x-		75	85	---	
	Vertical	θ_Y+		70	80	---	
		θ_Y-		70	80	---	

5.3 Electrical Characteristics

1.TFT LCD Module:

AUO M215HW01

Symbol	Parameter	Min	Typ	Max	Unit	Conditions
VDD	Logic/LCD Drive Voltage	4.5	5.0	5.5	[Volt]	+/-10%
IDD	Input Current	-	0.98	1.22	[A]	VDD= 5.0V, All Black Pattern At 60Hz
PDD	VDD Power	-	4.9	6.1	[Watt]	VDD= 5.0V, All Black Pattern At 60Hz
IRush	Inrush Current	-	-	3	[A]	
VDDrp	Allowable Logic/LCD Drive Ripple Voltage	-	-	300	[mV] p-p	VDD= 5.0V, All Black Pattern At 75Hz

Symbol	Parameter	Min	Typ	Max	Units	Condition
VTH	Differential Input High Threshold	-	+50	+100	[mV]	VICM = 1.2V
VTL	Differential Input Low Threshold	-100	-50	-	[mV]	VICM = 1.2V
|VID|	Input Differential Voltage	100	-	600	[mV]	
VICM	Differential Input Common Mode Voltage	+1.0	+1.2	+1.5	[V]	VTH-VTL = 200MV (max)

TPV TPM215HW01

Ta=25±2℃

Parameter		Symbol	Value			Unit
			Min.	Typ.	Max.	
Power Supply Voltage		Vcc	4.5	5.0	5.5	V
Ripple Voltage		V_{RP}	-	--	300	mV
Power on Rush Current		I_{RUSH}	-	--	3	A
Power Supply Current	White	Icc	-	0.51	0.61	A
	Black		-	1.05	1.26	A
	Vertical Stripe		-	1.06	1.26	A
Power consumption(without Backlight Unit)		Plcd	-	5.3	6.3	W
LVDS differential input voltage		Vid	100	-	600	mV
LVDS common input voltage		Vic	1	1.2	1.4	V

2.Back Light Unit:

AUO M215HW01

Symbol	Parameter	Min.	Typ.	Max.	Unit
IR_{LED}	LED Operation Current	19	20	21	[mA]
V_{LB}	Light Bar Operation Voltage (for reference)	29	32	34	[Volt]
P_{BLU}	BLU Power consumption (for reference)	8.8	10.2	11.4	[Watt]
Vf	Forward Voltage	2.9	3.2	3.4	
LT_{LED}	LED life Time	25,000	30,000	--	[Hour]

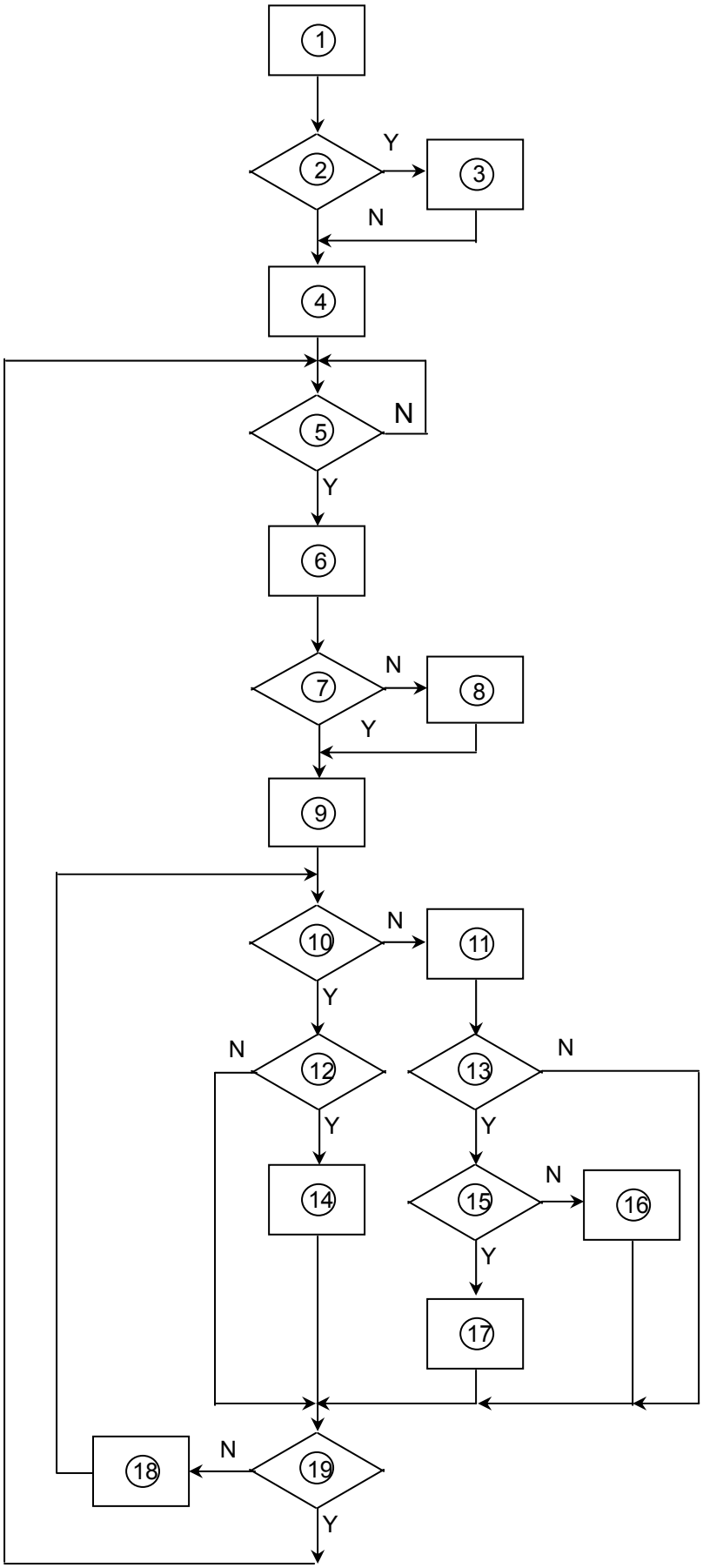
TPV TPM215HW01

Ta = 25 ±2℃

Parameter	Symbol	Value			Unit
		Min	Typ.	Max.	
Light Bar Input Voltage	V_{LED}	-	33	-	V_{DC}
Light Bar Input Current	I_{LED}	180	200	220	mA_{DC}
Power Consumption	P_{LED}	-	13.2	-	W
LED Life Time	L_{BL}	20000	--	--	Hrs

6. Block Diagram

6.1 Software Flow Chart



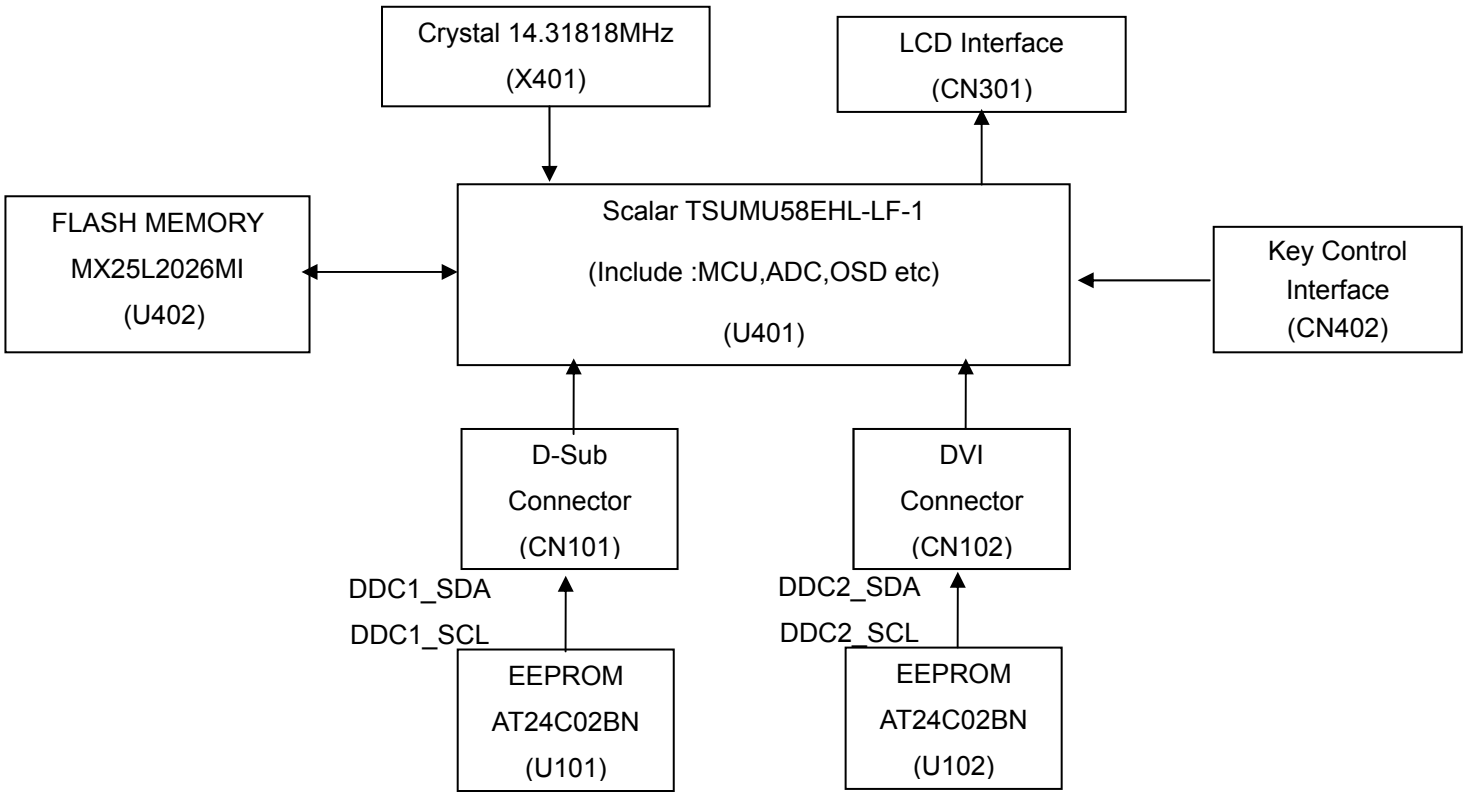
REMARK:

1) MCU initialize.
2) Is the EEprom blank?
3) Program the EEprom by default values.
4) Get the PWM value of brightness from EEprom.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EEprom.Turn on the LED and set it to green color. Scalar initialize.
10) In standby mode?
11) Update the lifetime of back light.
12) Check the analog port, are they’re any signals coming?
13) Does the scalar send out an interrupt request?
14) Wake up the scalar.
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappear.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

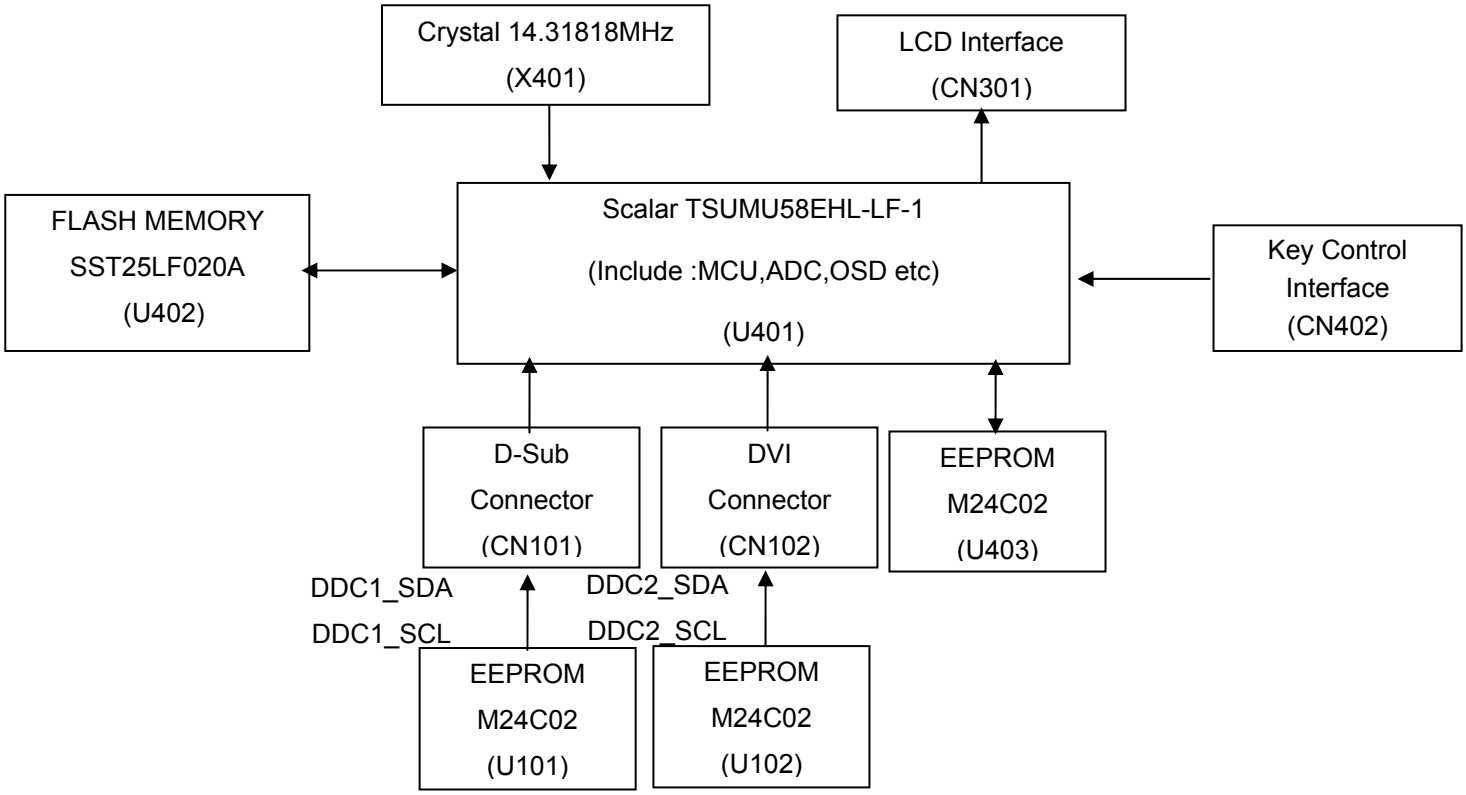
6.2 Electrical Block Diagram

6.2.1 Scalar Board

715G3329 1 2



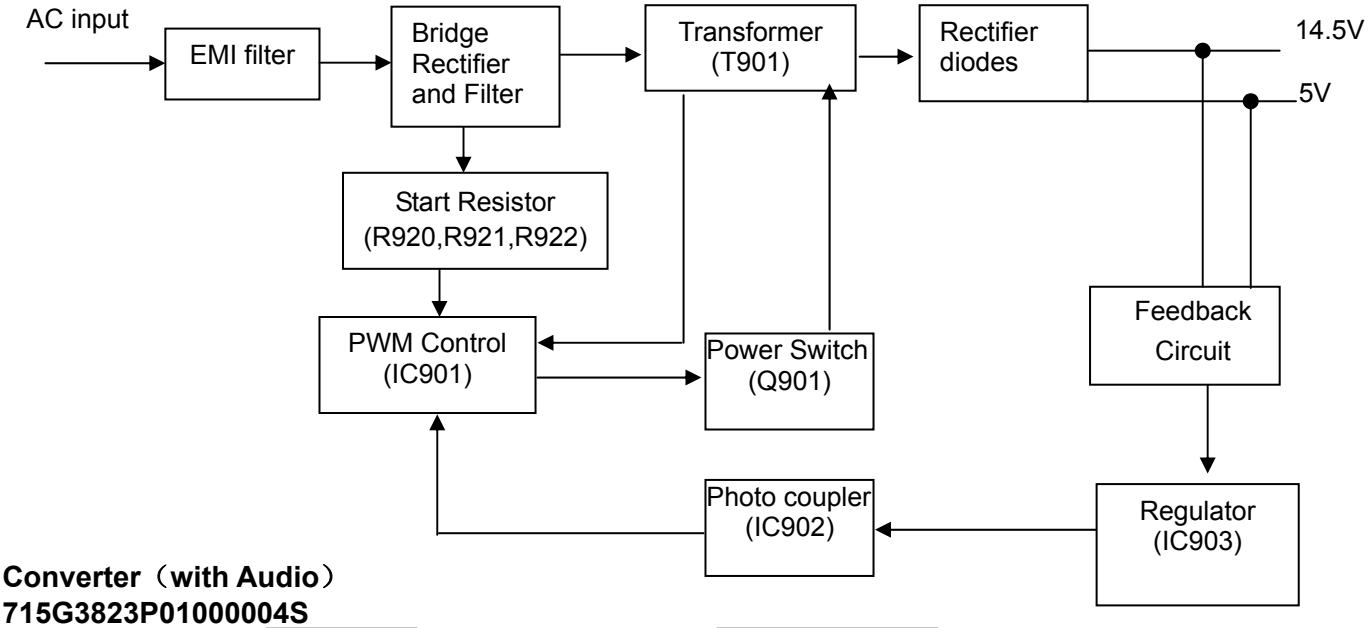
715G2883 1 6



6.2.2 Inverter / Power Board

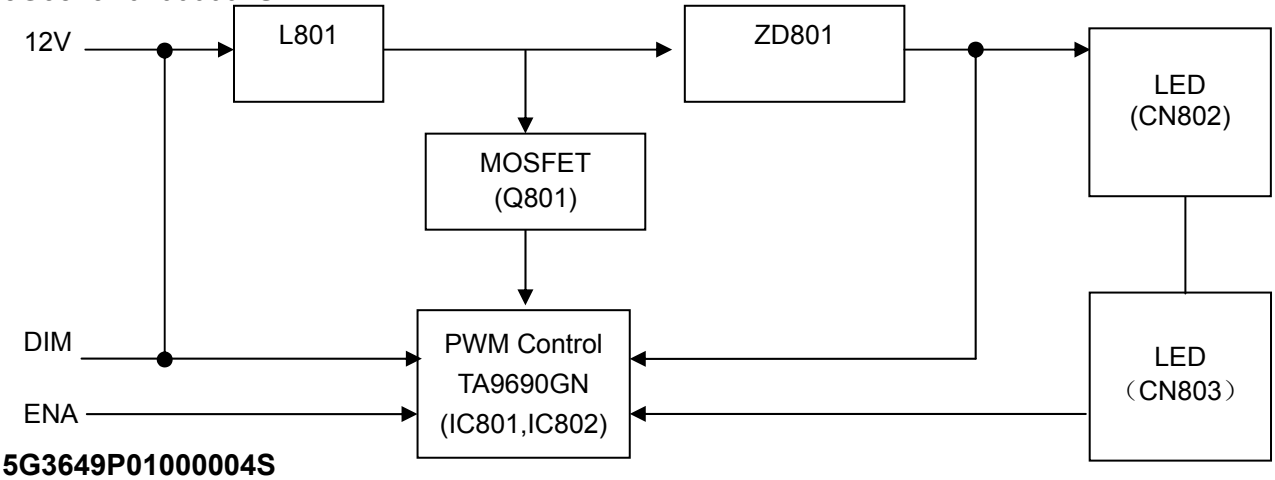
Adapter

715G3189P01LED001S & 715G3189P02LED001S

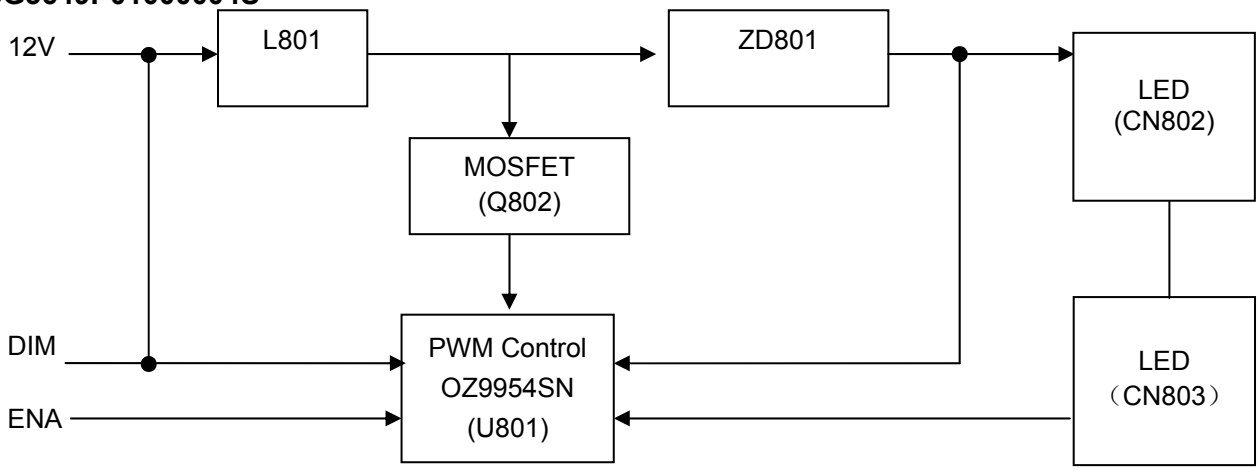


Converter（with Audio）

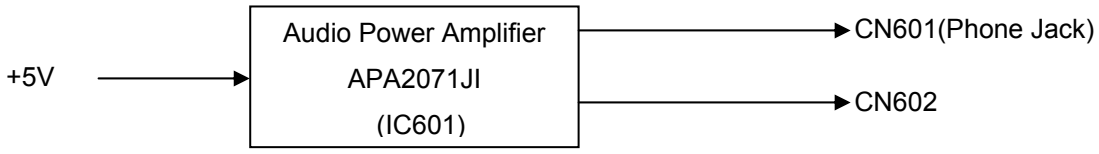
715G3823P01000004S



715G3649P01000004S



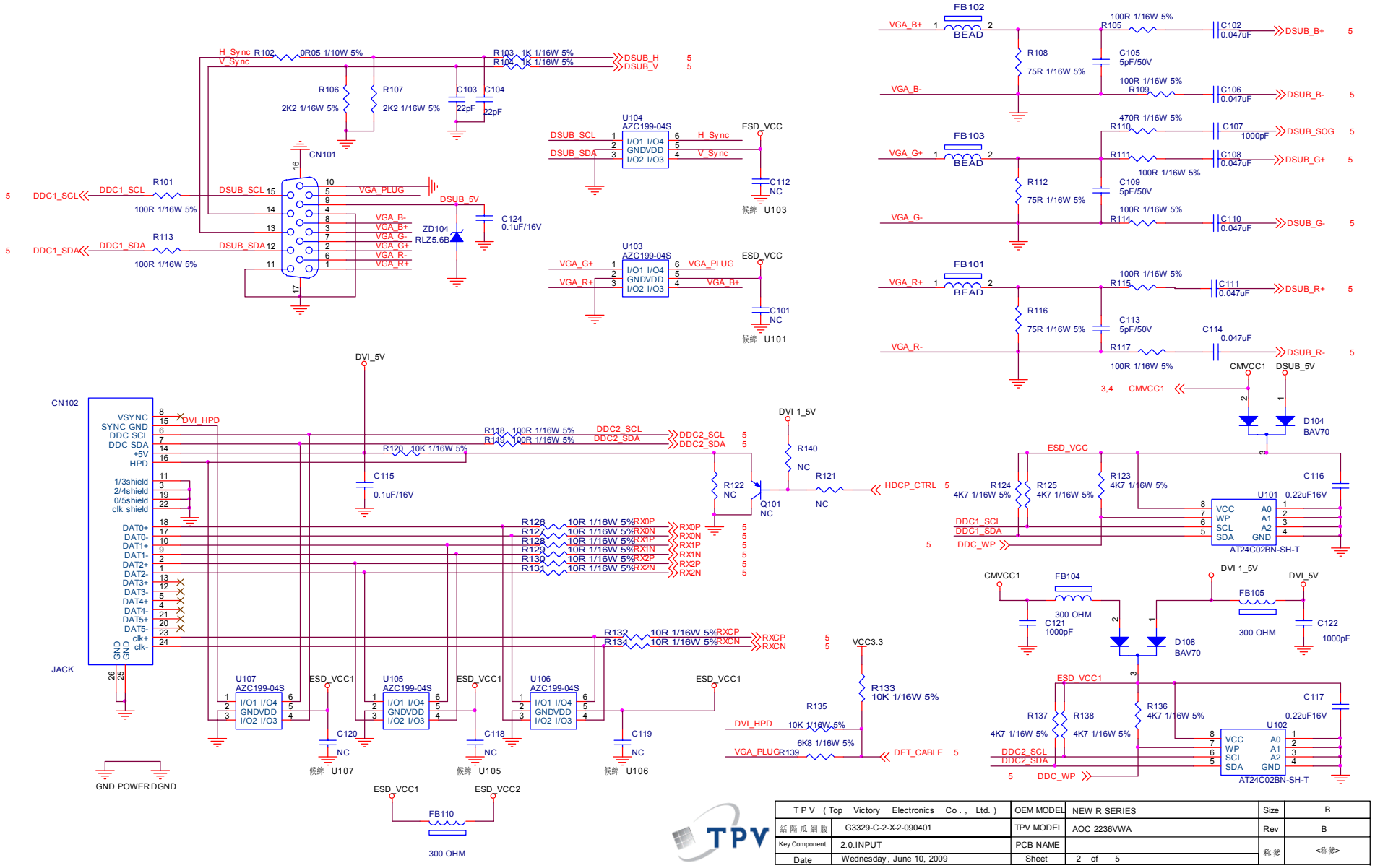
Audio



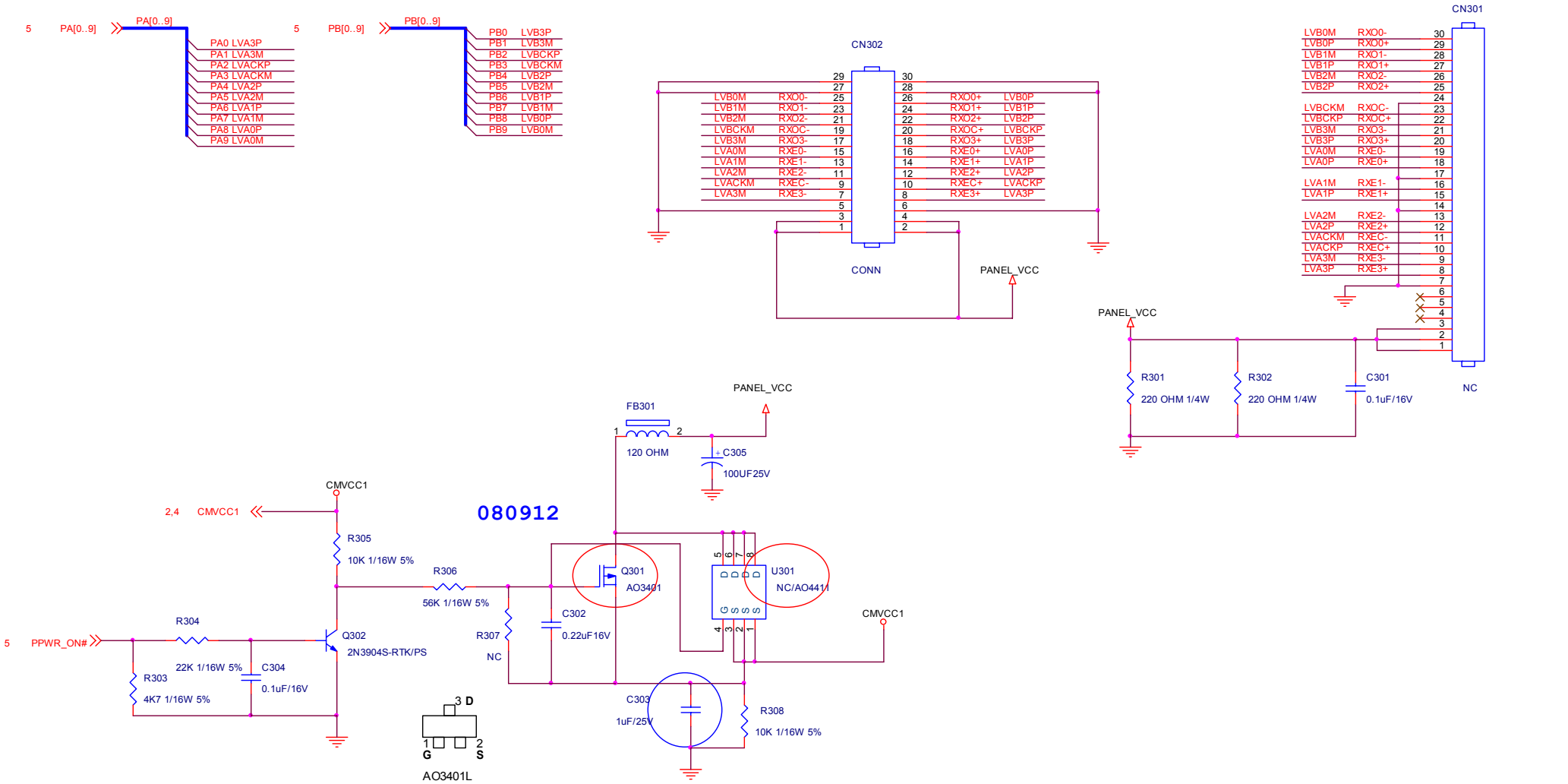
7. Schematic

7.1 Main Board

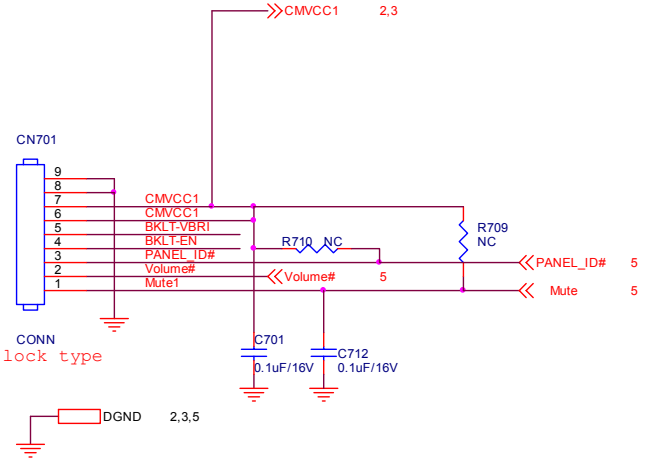
715G3329 1 2

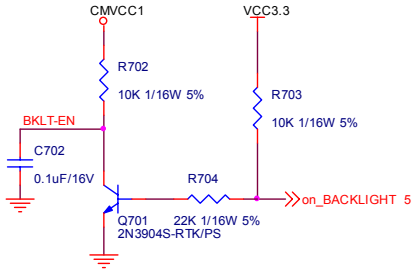


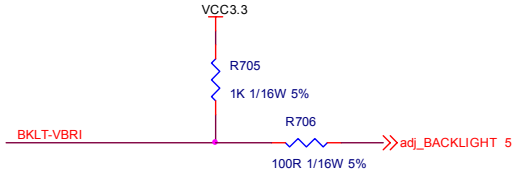
T P V (Top Victory Electronics Co . , Ltd.)		OEM MODEL	NEW R SERIES	Size	B
結 隔 瓜 綢 腹	G3329-C-2-X-2-090401	TPV MODEL	AOC 2236VWA	Rev	B
Key Component	2.0.INPUT	PCB NAME		称 爹	<称爹>
Date	Wednesday, June 10, 2009	Sheet	2 of 5		

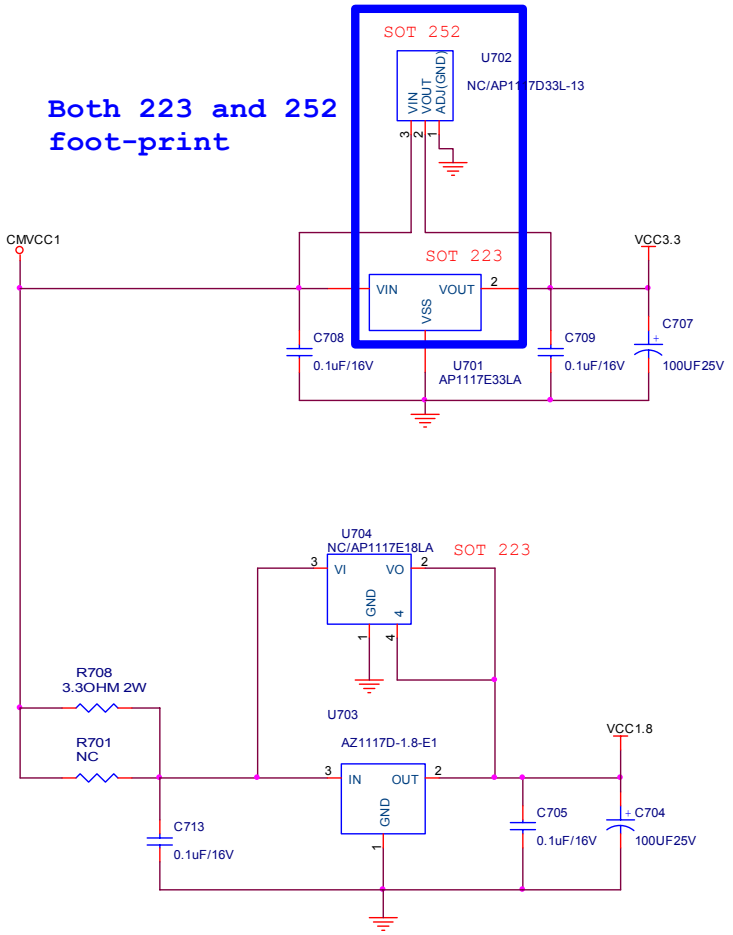


T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL	NEW R SERIES	Size	B
結 隔 瓜 網 腹	G3329-C-2-X-2-090401	TPV MODEL	AOC 2236VWA	Rev	B
Key Component	3.0.OUTPUT	PCB NAME		称 爹	<称爹>
Date	Wednesday, June 10, 2009	Sheet	3 of 5		

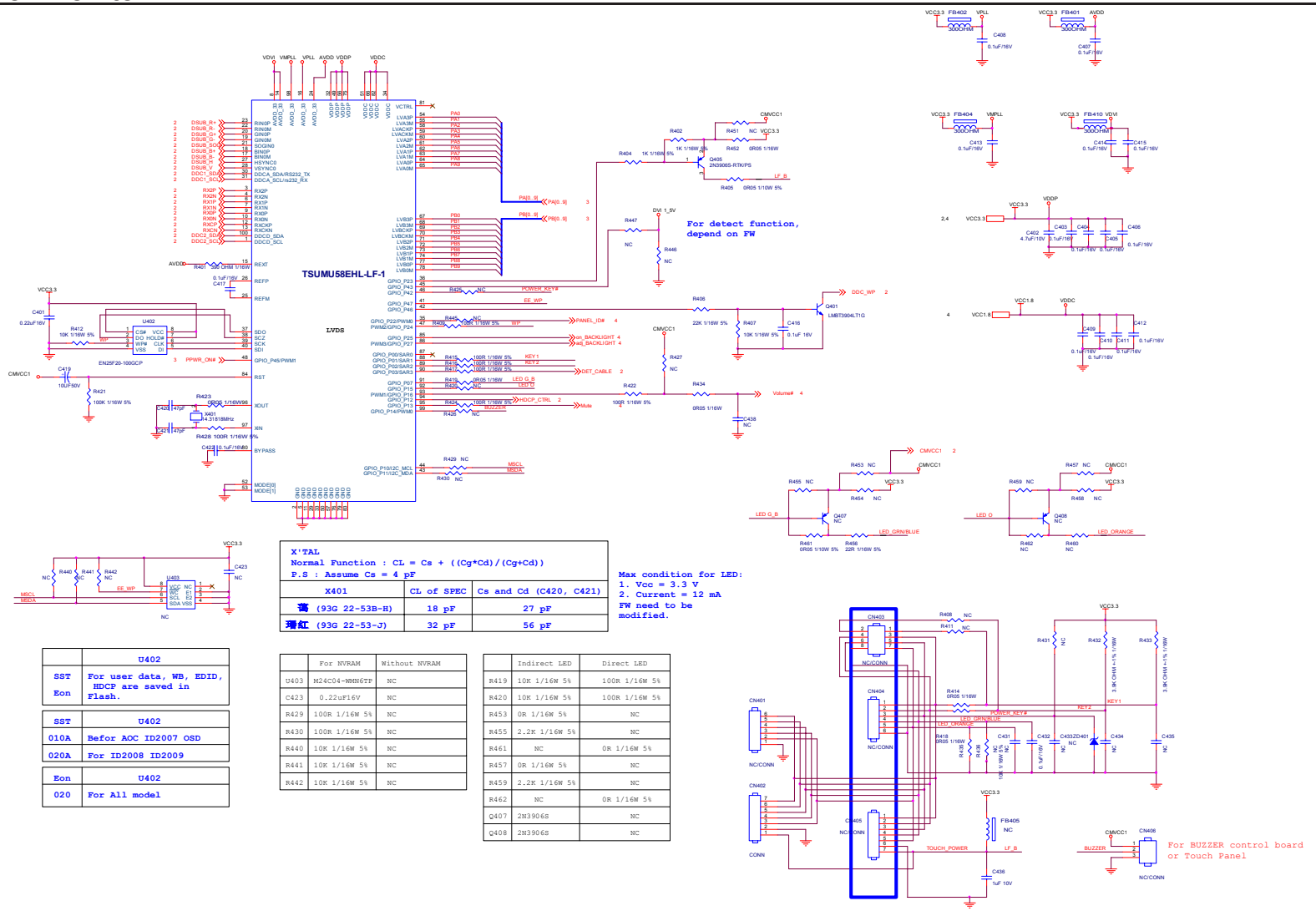


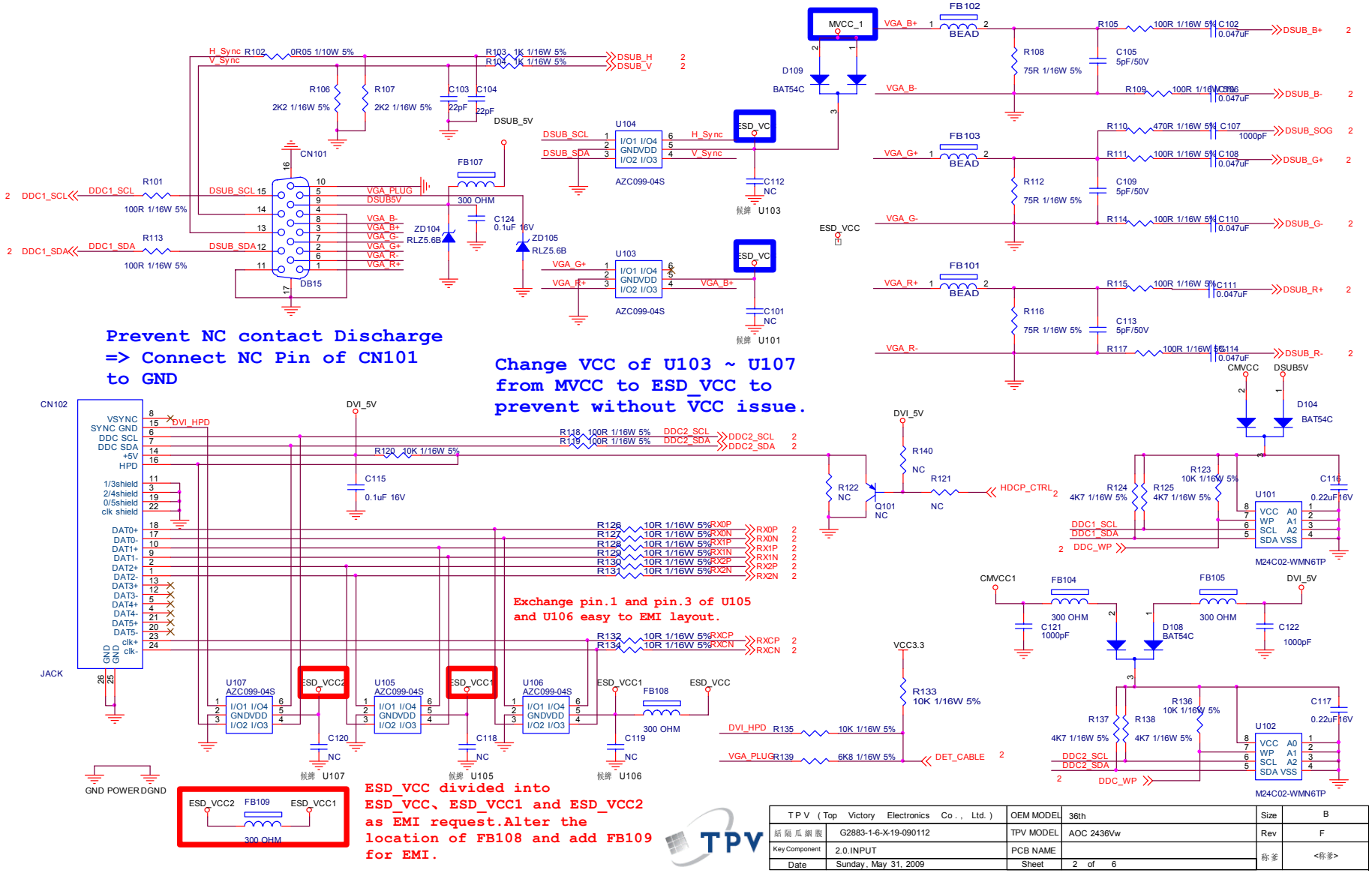


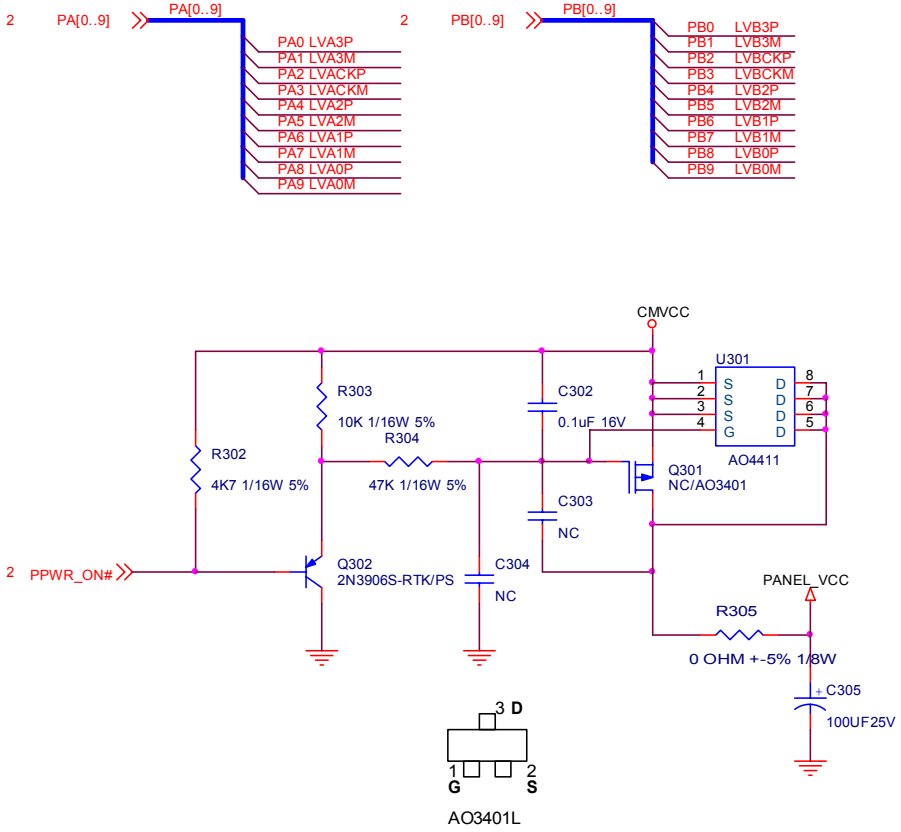


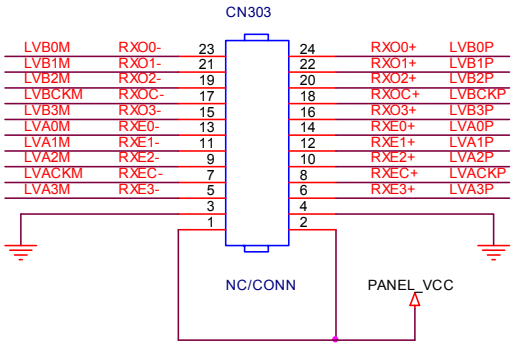


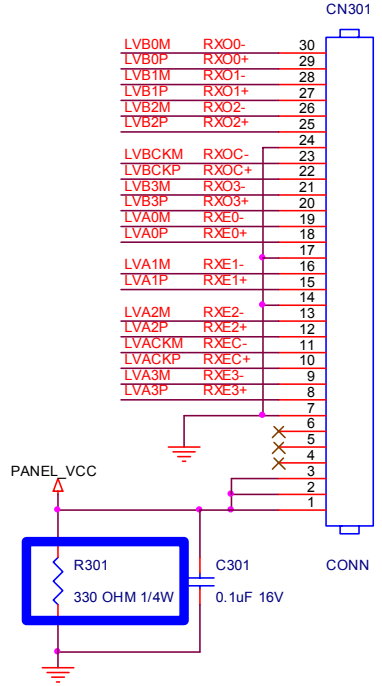
TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL	NEW R SERIES	Size	B
結隔瓜銅腹	G3329-C-2-X-2-090401	TPV MODEL	AOC 2236VWA	Rev	B
Key Component	4.0.POWER	PCB NAME		称爹	<称爹>
Date	Wednesday, June 10, 2009	Sheet	4 of 5		


TSUMU58EHL-LF-1
LVDS
For detect function, depend on FW
X'TAL
Normal Function : CL = Cs + ((Cg*Cd)/(Cg+Cd))
P.S : Assume Cs = 4 pF
X401 | CL of SPEC | Cs and Cd (C420, C421)
高 (93G 22-53B-H) | 18 pF | 27 pF
寿红 (93G 22-53-J) | 32 pF | 56 pF
Max condition for LED:
1. Vcc = 3.3 V
2. Current = 12 mA
FW need to be modified.
U402
SST | For user data, WB, EDID, HDCP are saved in Flash.
Eon
SST | U402
010A | Befor AOC ID2007 OSD
020A | For ID2008 ID2009
Eon | U402
020 | For All model
For NVRAM | Without NVRAM
U403 | M24C04-WMN6TP | NC
C423 | 0.22uF16V | NC
R429 | 100R 1/16W 5% | NC
R430 | 100R 1/16W 5% | NC
R440 | 10K 1/16W 5% | NC
R441 | 10K 1/16W 5% | NC
R442 | 10K 1/16W 5% | NC
Indirect LED | Direct LED
R419 | 10K 1/16W 5% | 100R 1/16W 5%
R420 | 10K 1/16W 5% | 100R 1/16W 5%
R453 | 0R 1/16W 5% | NC
R455 | 2.2K 1/16W 5% | NC
R461 | NC | 0R 1/16W 5%
R457 | 0R 1/16W 5% | NC
R459 | 2.2K 1/16W 5% | NC
R462 | NC | 0R 1/16W 5%
Q407 | 2N3906S | NC
Q408 | 2N3906S | NC
For BUZZER control board or Touch Panel
TPV
OEM MODEL NEW R SERIES
TPV MODEL AOC 2236VWA
PCB NAME
Date Wednesday, June 10, 2009
Size Custom
Rev B


Prevent NC contact Discharge
=> Connect NC Pin of CN101
to GND
Change VCC of U103 ~ U107
from MVCC to ESD_VCC to
prevent without VCC issue.
Exchange pin.1 and pin.3 of U105
and U106 easy to EMI layout.
ESD_VCC divided into
ESD_VCC、ESD_VCC1 and ESD_VCC2
as EMI request.Alter the
location of FB108 and add FB109
for EMI.
CN101
CN102
JACK
DB15
U103
U104
U105
U106
U107
U101
U102
FB101
FB102
FB103
FB104
FB105
FB107
FB108
FB109
D104
D108
D109
Q101
M24C02-WMN6TP
AZC099-04S
BAT54C
BEAD
MVCC_1
ESD_VCC
ESD_VCC1
ESD_VCC2
CMVCC
CMVCC1
DVI_5V
DSUB5V
VCC3.3
GND POWER DGND
TPV
TPV (Top Victory Electronics Co., Ltd.)
OEM MODEL 36th
TPV MODEL AOC 2436Vw
G2883-1-6-X-19-090112
2.0.INPUT
Sunday, May 31, 2009
Size B
Rev F
Sheet 2 of 6

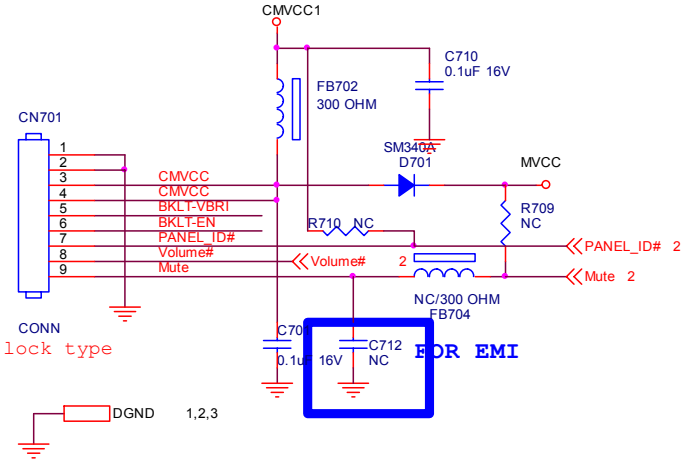


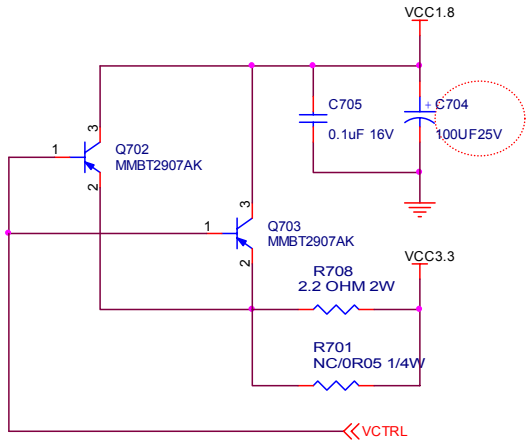


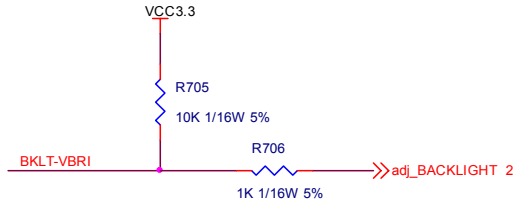


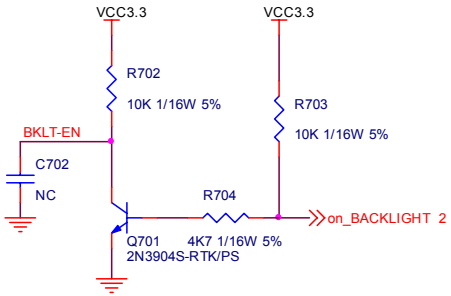
Change the type of resistor R301 from 0805 to 1206.

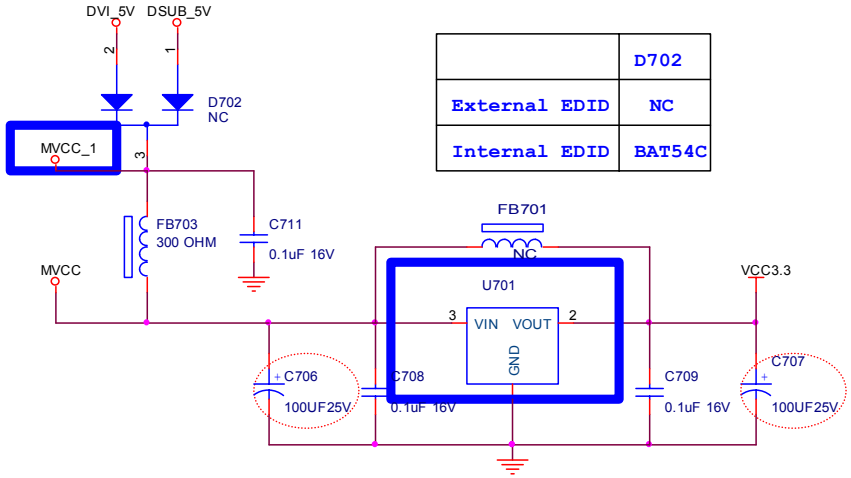
TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL	36th	Size	B
紙隔瓜網股	G2883-1-6-X-19-090112	TPV MODEL	AOC 2436Vw	Rev	F
Key Component	3.0.OUTPUT	PCB NAME		称爹	<称爹>
Date	Sunday, May 31, 2009	Sheet	3 of 6		









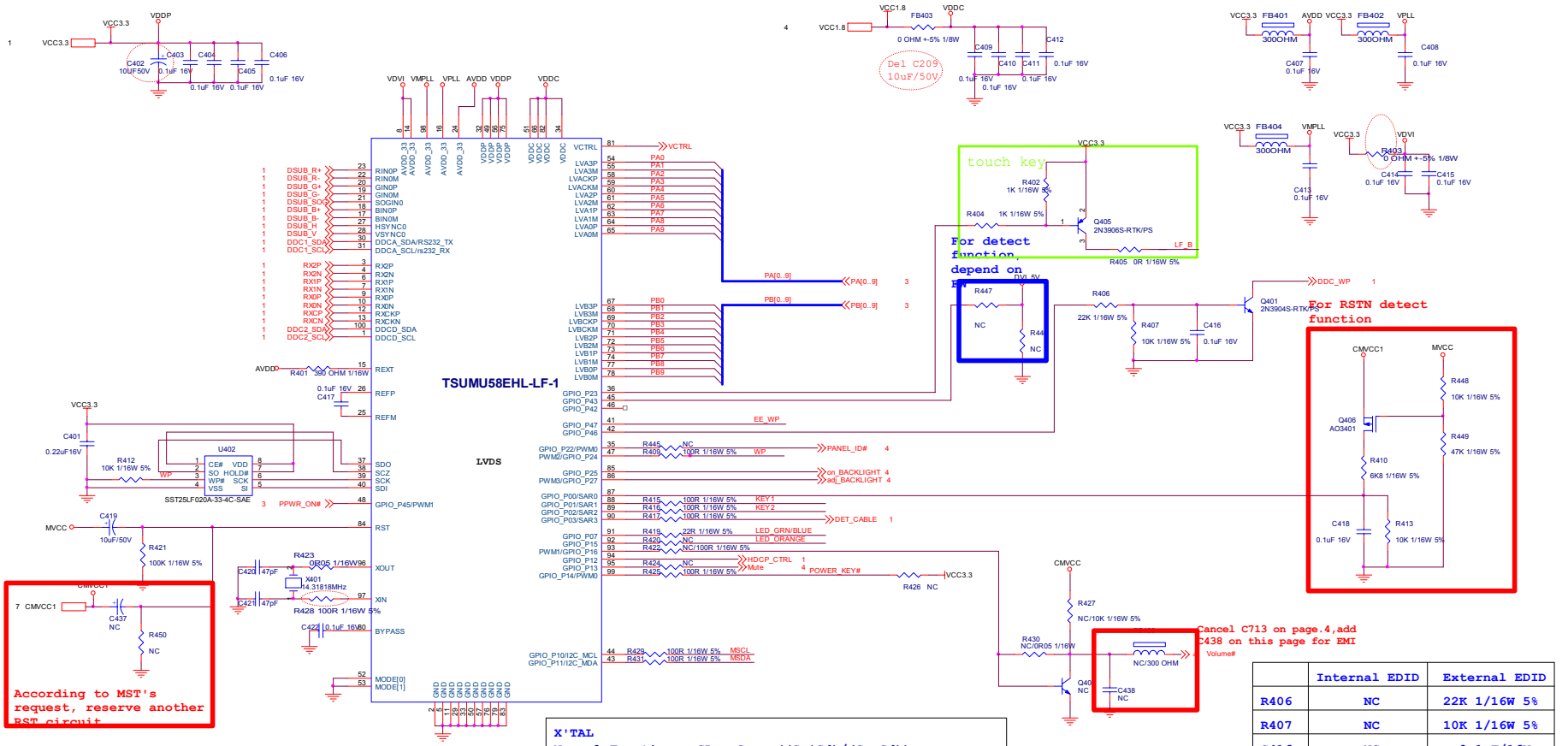


	D702
External EDID	NC
Internal EDID	BAT54C

Both 223 and 252 foot-print

	R701	R708	U701
TSUM5PFHL	0R05 1/4W	NC	223
TSUMU58EHL	NC	3.3 OHM 2W	223
TSUMO58CWHL	NC	3.3 OHM 2W	252

TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL	36th	Size	B
結隔瓜網腹	G2883-1-6-X-19-090112	TPV MODEL	AOC 2436Vw	Rev	F
Key Component	4.0.POWER	PCB NAME		称爹	<称爹>
Date	Sunday, May 31, 2009	Sheet	4 of 6		



X'TAL
Normal Function : CL = Cs + ((Cg*Cd)/(Cg+Cd))
P.S : Assume Cs = 4 pF

X401	CL of SPEC	Cs and Cd (C420, C421)
鴻 (93G 22-53B-H)	18 pF	27 pF
瑞紅 (93G 22-53-J)	32 pF	56 pF

	Internal EDID	External EDID
R406	NC	22K 1/16W 5%
R407	NC	10K 1/16W 5%
C416	NC	0.1uF/16V
Q401	NC	2N3904S-RTK/PS
R123	NC	10K 1/16W 5%
R136	NC	10K 1/16W 5%

	U402
SST	For user data, WB, EDID, HDCP are saved in Flash.
PMC	For WB, EDID, HDCP are saved in Flash.

	U402
010A	Befor AOC ID2007 OSD
020A	For ID2008

	U403	R440	R441	R442	C423
SST For user data, WB, EDID are saved in Flash.	NC	NC	NC	NC	NC
PMC For WB, EDID are saved in Flash.	M24C04	10K 1/16W 5%	10K 1/16W 5%	10K 1/16W 5%	0.22uF/16V

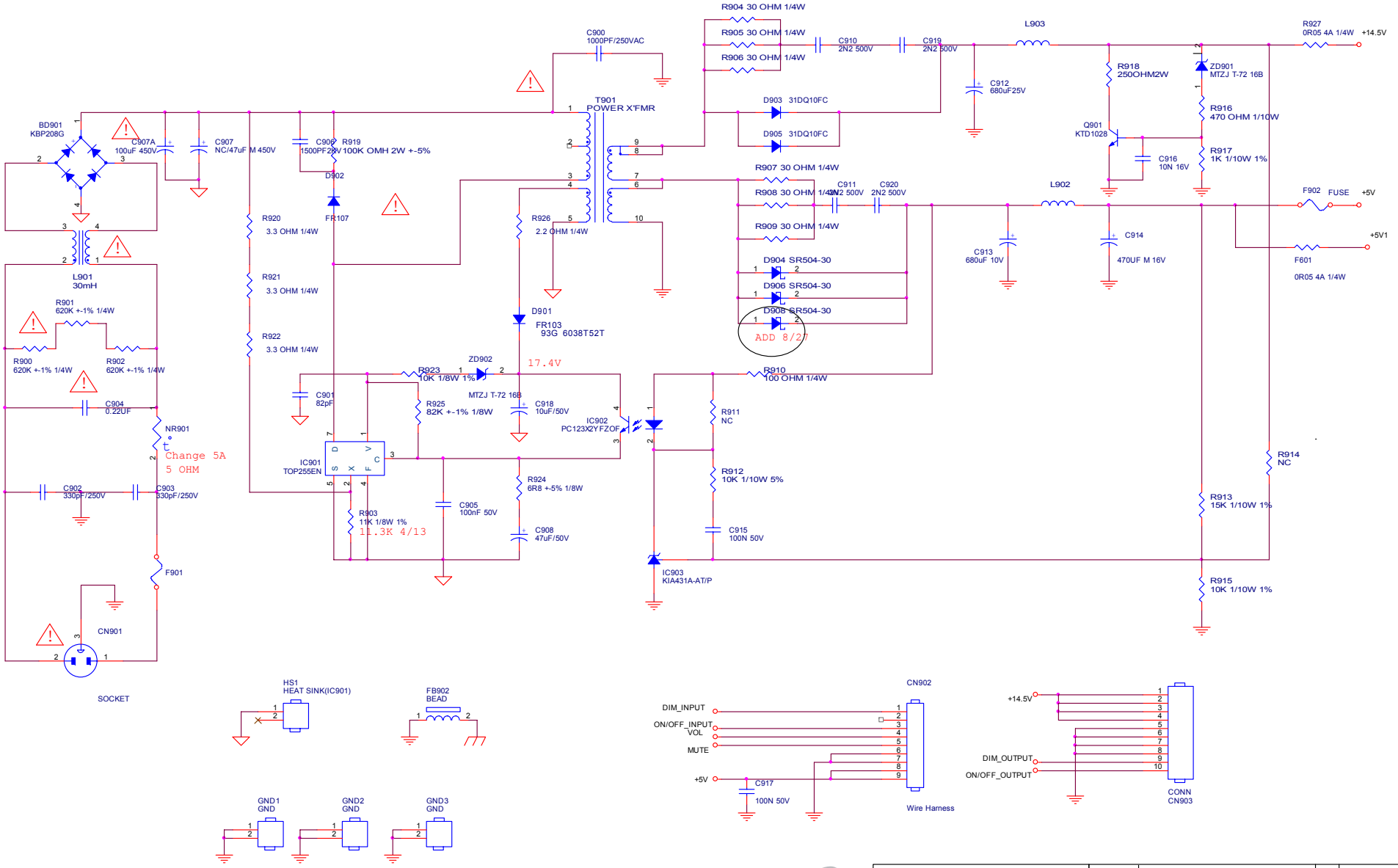
	CN402	FB405 and C436
For Normal	WAFER 2.0MM 6P	NC
For Philips	WAFER 2.0MM 7P	According to EMI

TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	36th	Size C
G2883-1-6-X-19-090112	TPV MODEL	AOC 2436Vw	Rev F
Key Component 5.0.SCALER	PCB NAME		
Date Sunday, May 31, 2009	Sheet 5 of 6		标准

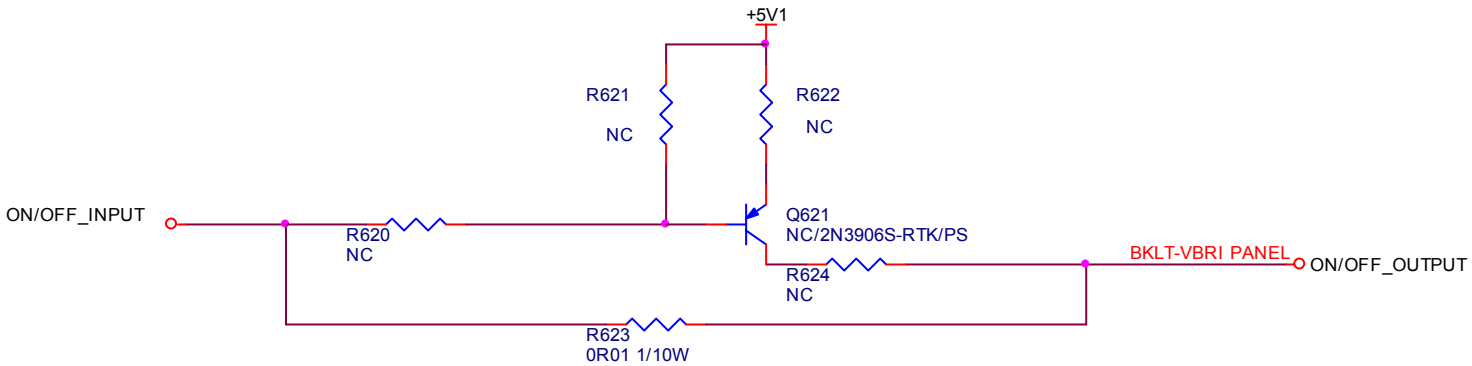
7.2 Power Board

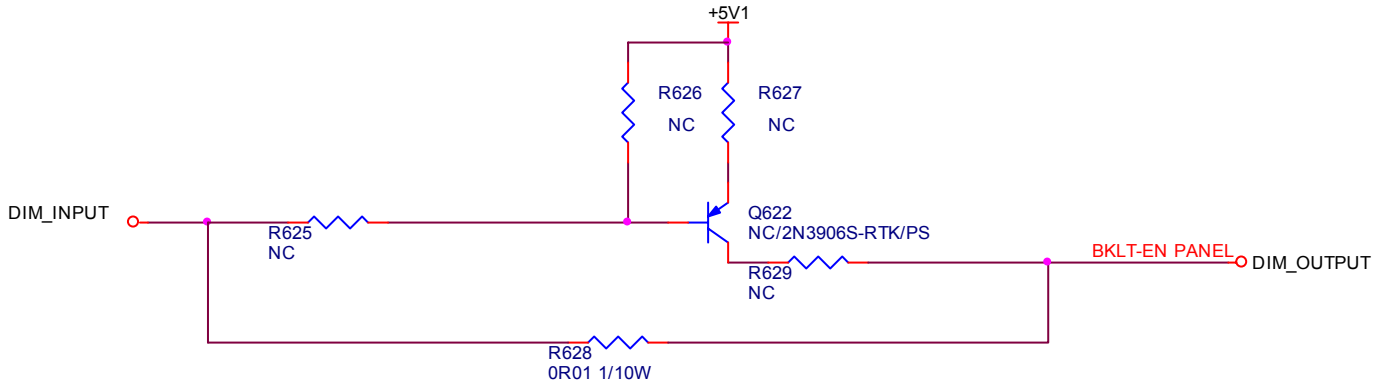
Adapter

715G3189P01LED001S & 715G3189P02LED001S

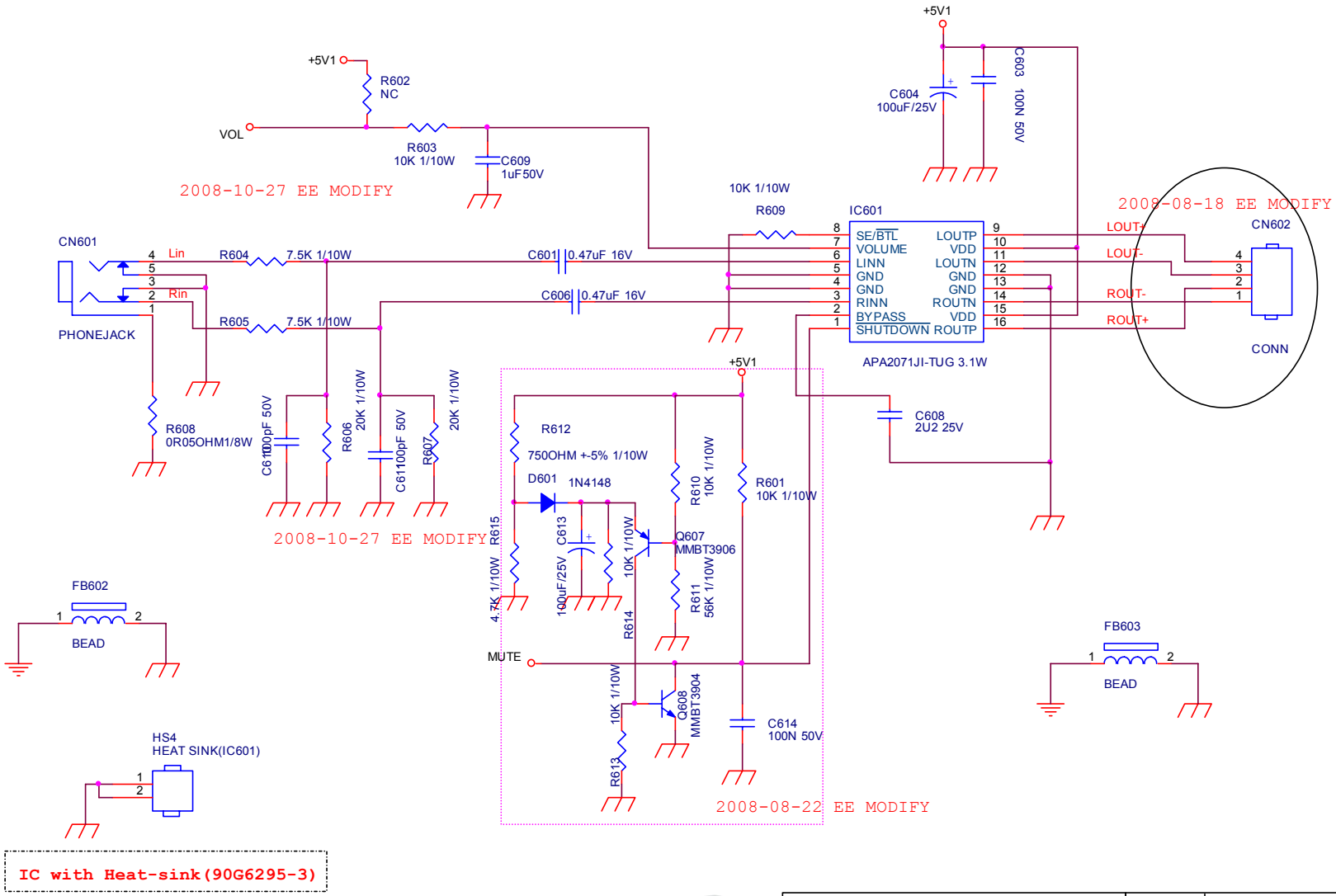


T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	Custom
延陽瓜銀股	G3189-PO1-LED-X-1-091019	TPV MODEL	1	Rev	1
Key Component	02.POWER	PCB NAME	715G3189PO1LED001S	称	ODM MODEL
Date	Tuesday, January 05, 2010	Sheet	of		





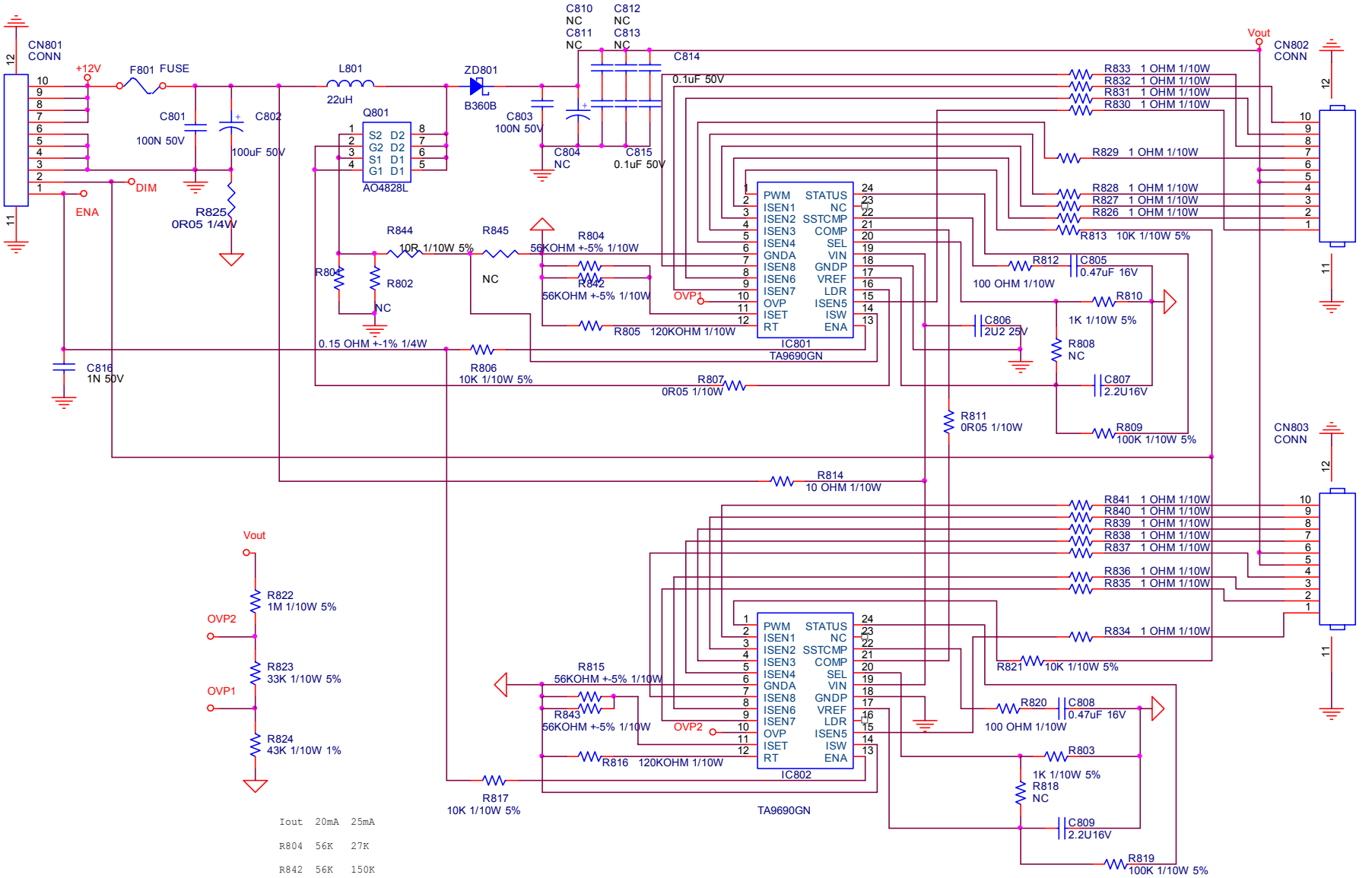
T P V （Top Victory Electronics Co . , Ltd. ）		OEM MODEL		Size	A
結 隔 瓜 綑 腹	G3189-PO1-LED-X-1-091019	TPV MODEL	1	Rev	1
Key Component	04.BUFEER	PCB NAME	715G3189PO1LED001S	称爹	ODM MODEL
Date	Tuesday , January 05, 2010	Sheet	of		



TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	Custom
結隔瓜網腹	G3189-PO1-LED-X-1-091019	TPV MODEL	1	Rev	1
Key Component	03.AUDIO	PCB NAME	715G3189PO1LED001S	称爹	ODM MODEL
Date	Tuesday, January 05, 2010	Sheet	of		

Converter

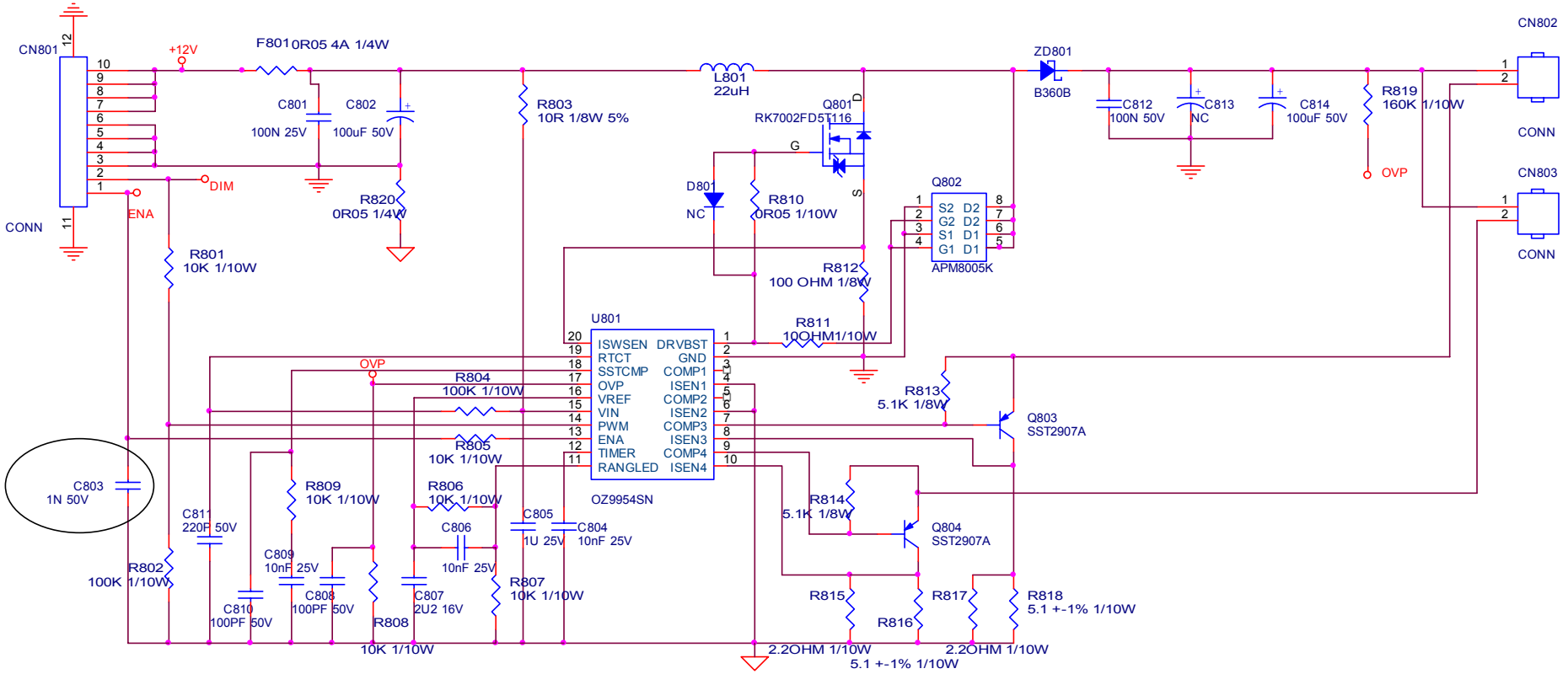
715G3823P01000004S



Iout	20mA	25mA
R804	56K	27K
R842	56K	150K
R815	56K	27K
R843	56K	150K

TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	A4
結構代號	G3823-P01-000-0040-2-091028	TPV MODEL	LNPC98501AHD1	Rev	1
Key Component	02.CONVERTER	PCB NAME	715G3823P01000004S	版本	ODM MODEL
Date	Tuesday, December 08, 2009	Sheet	of		

715G3649P01000004S

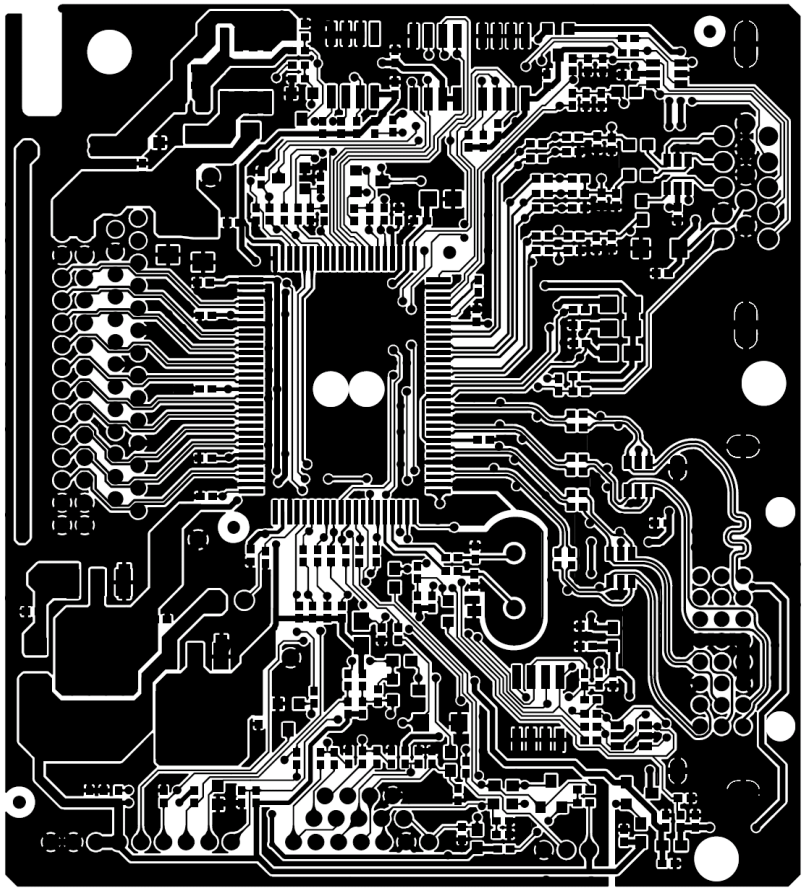


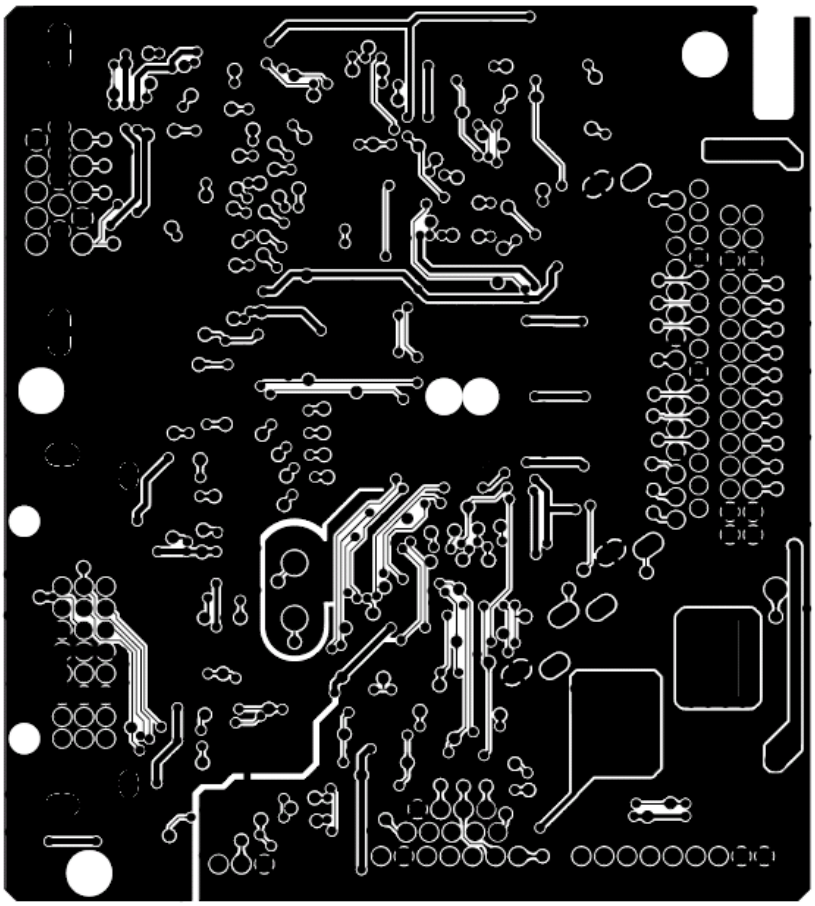
TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL	e936vw	Size	A4
結隔瓜綢腹	G3649-P0C-000-X-1-090911	TPV MODEL	ADPC93302HB7	Rev	1
Key Component	02.CONVERTER	PCB NAME	715G3649P0C0000040	称爹	ODM MODEL
Date	Sunday, January 10, 2010	Sheet	of 2 2		

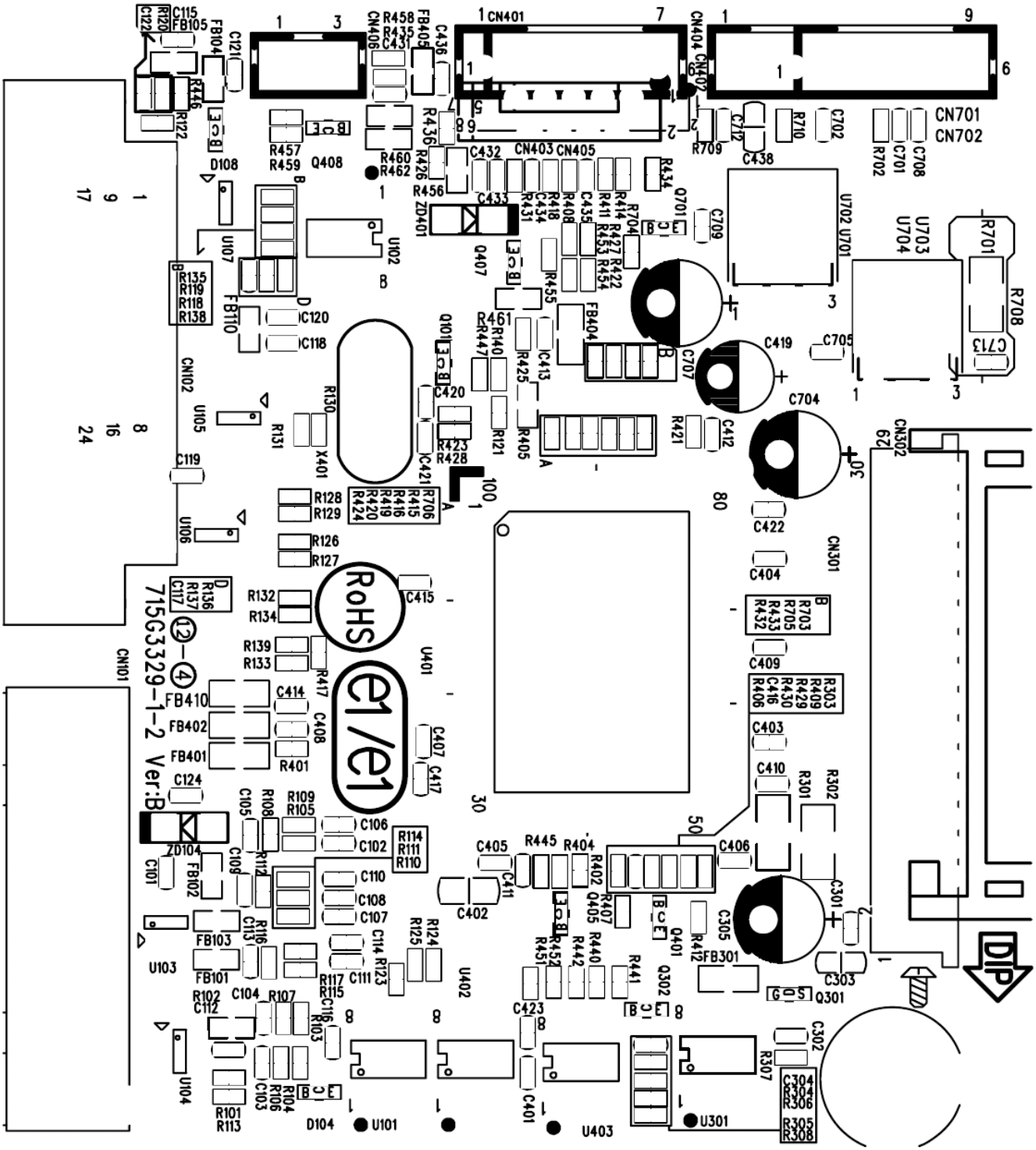
8. PCB Layout

8.1 Main Board

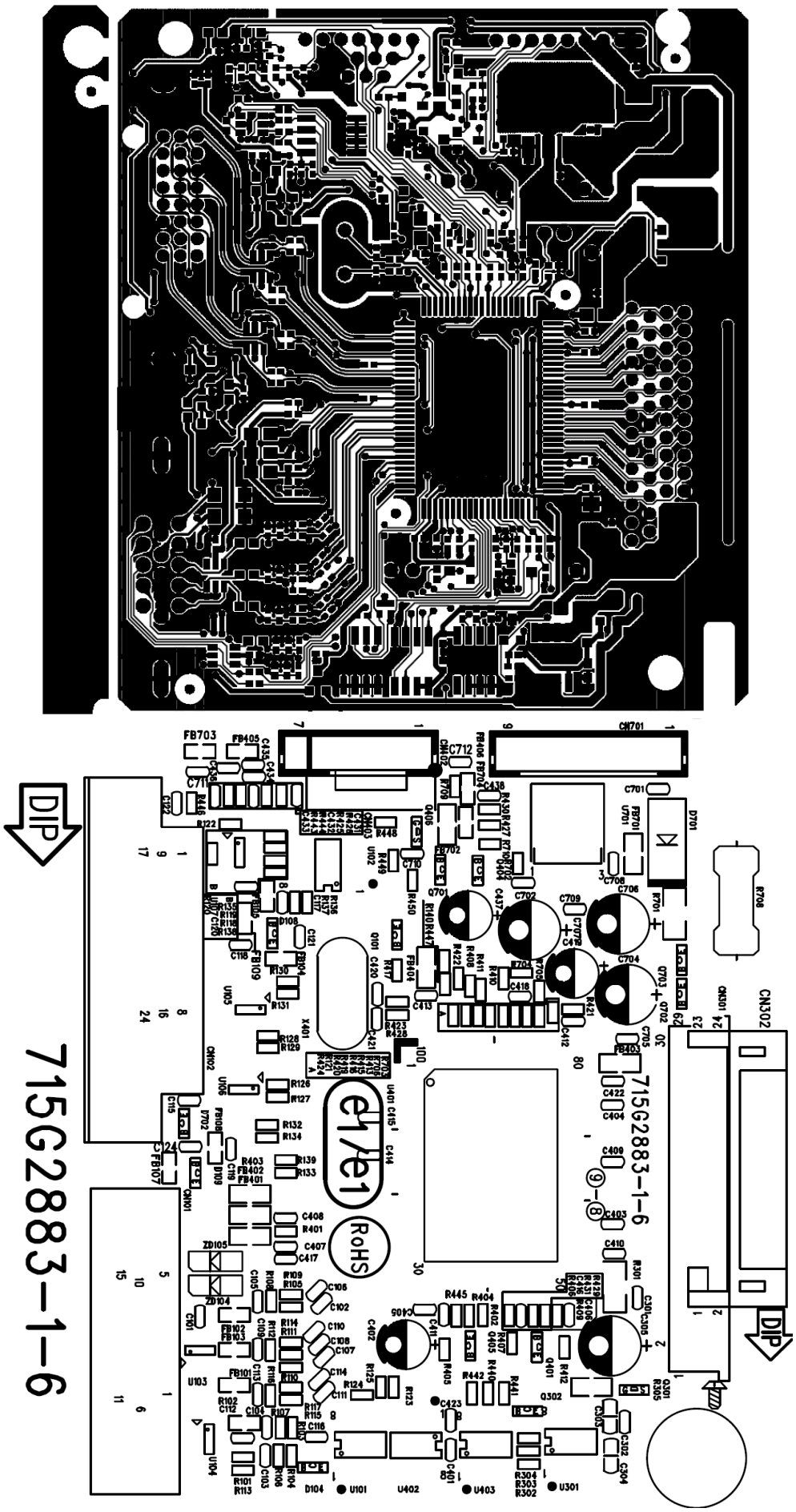
715G3329 1 2






715G3329-1-2 Ver:B
RoHS
e1/e1
CN401
CN402
CN403
CN404
CN405
CN406
CN407
CN701
CN702
CN101
CN102
CN301
CN302
U101
U102
U103
U104
U105
U106
U107
U301
U401
U402
U403
U701
U702
U703
U704
Q301
Q302
Q401
Q404
Q405
Q407
Q408
Q701
D104
D108
ZD104
ZD401
FB101
FB102
FB103
FB104
FB105
FB110
FB301
FB401
FB402
FB404
FB410
X401
DIP

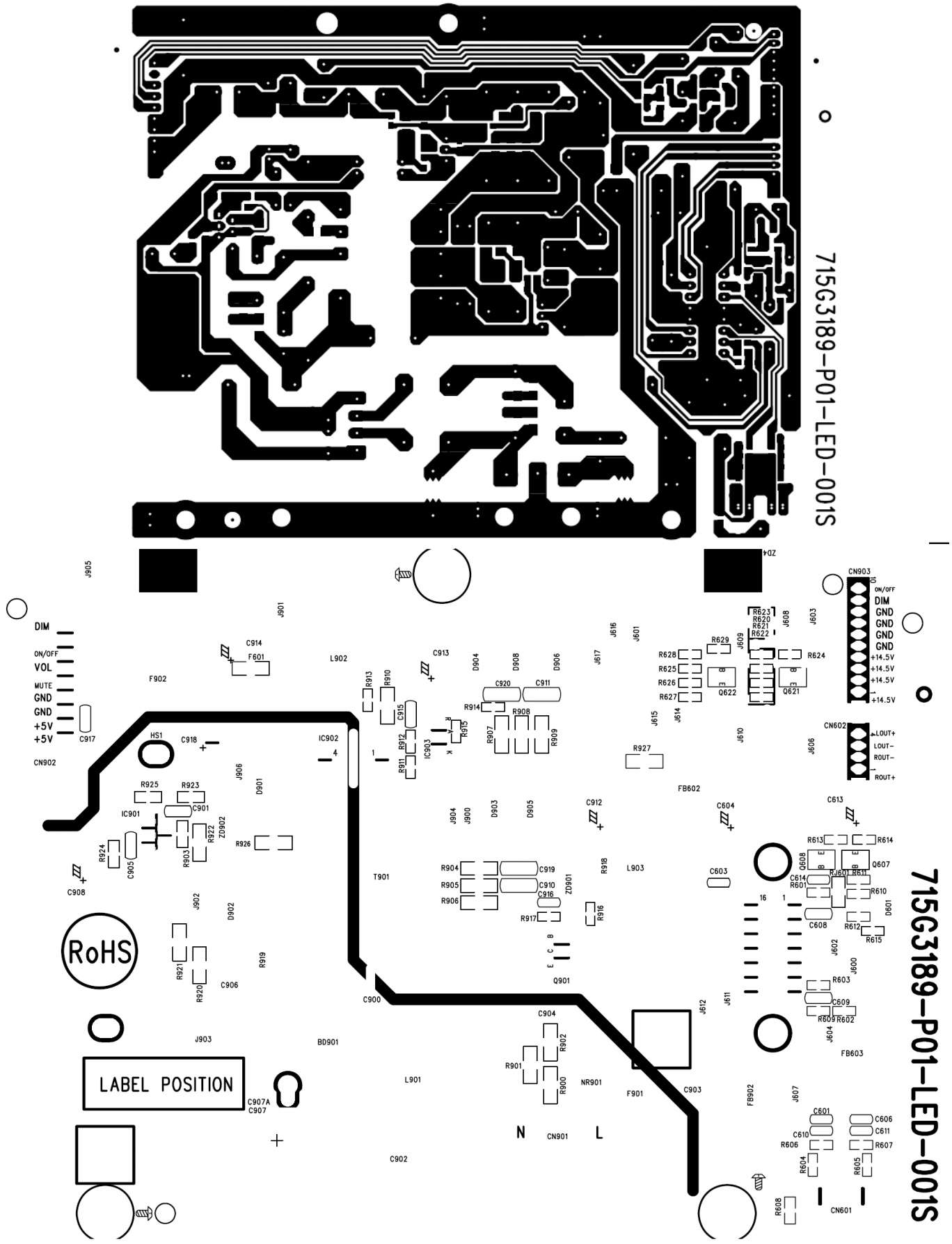
715G2883 1 6



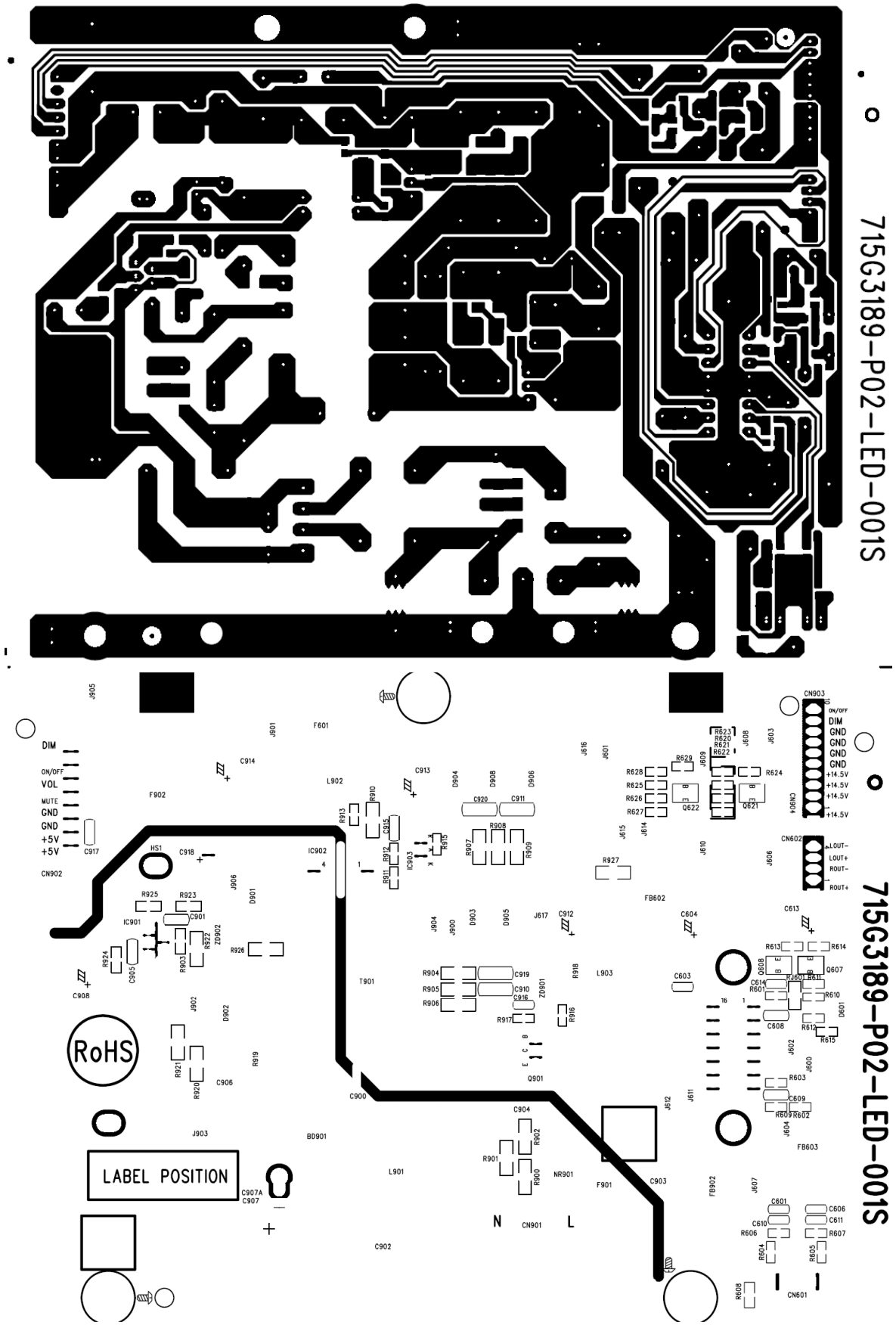
8.2 Power Board

Adapter

715G3189P01LED001S

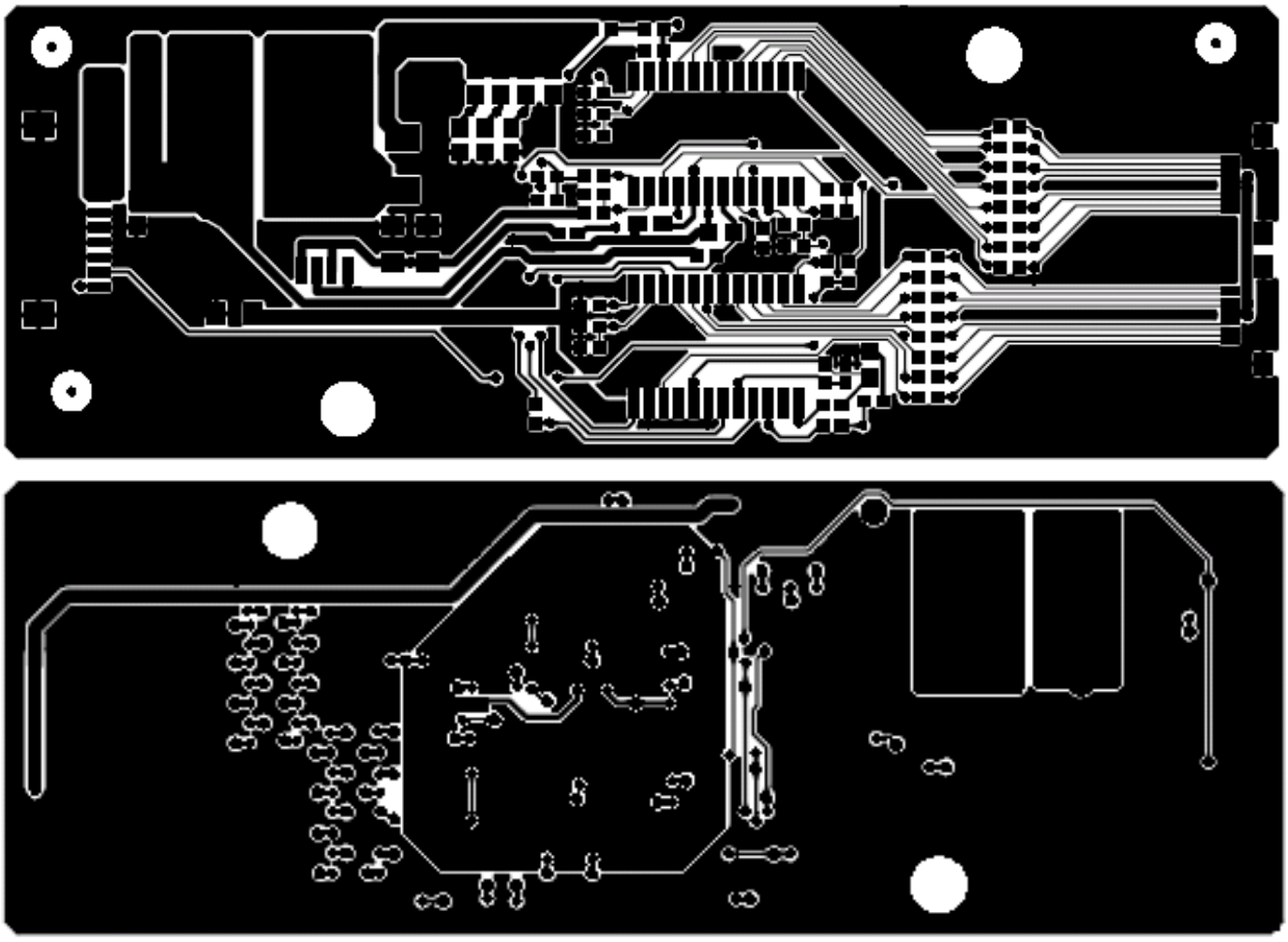


715G3189P02LED001S

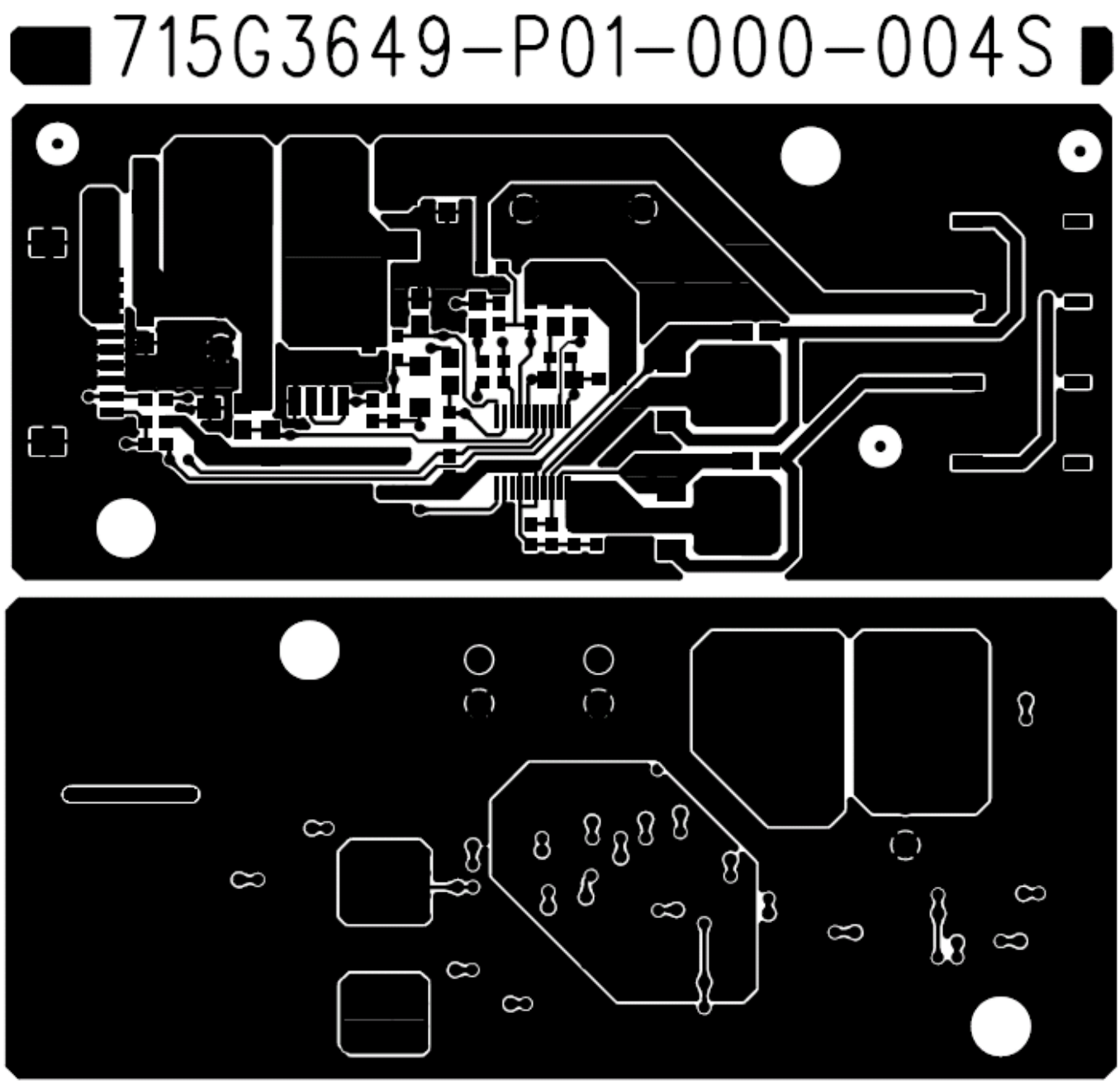


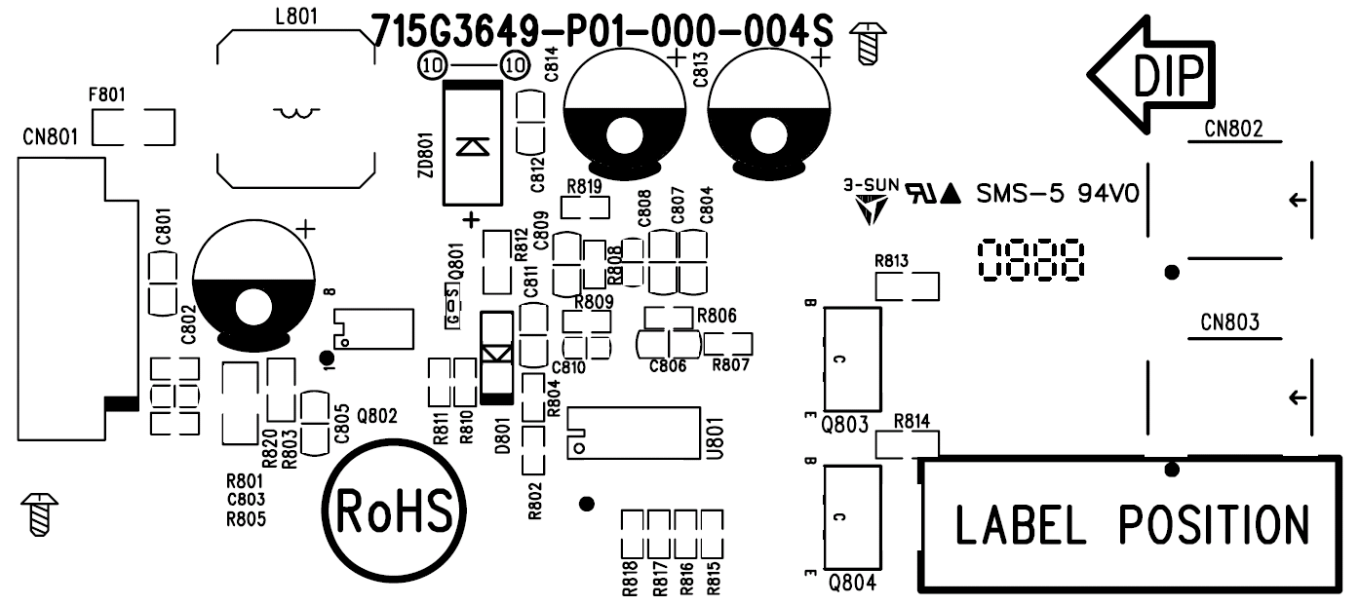
Converter

715G3823P01000004S



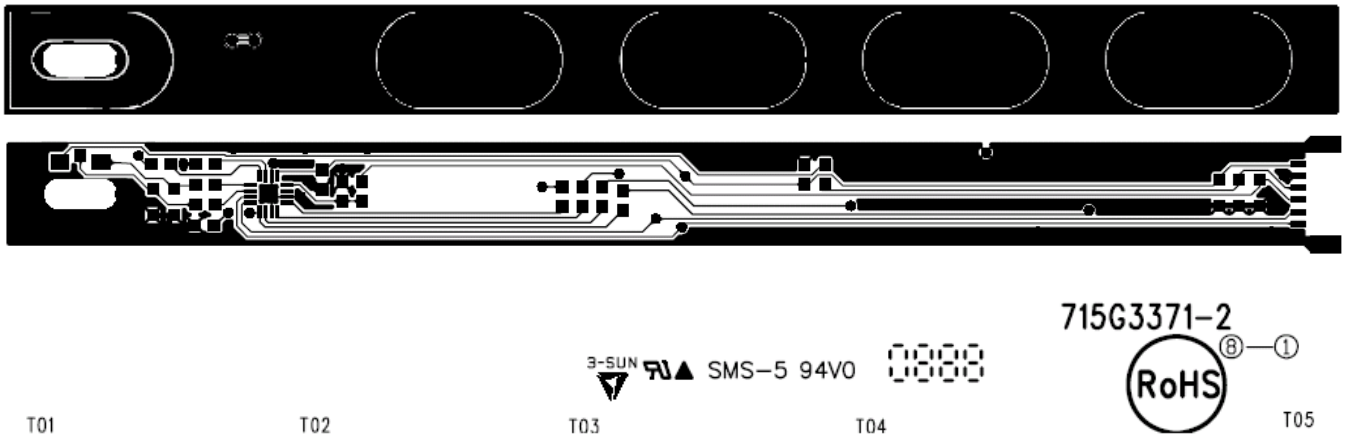
715G3649P01000004S





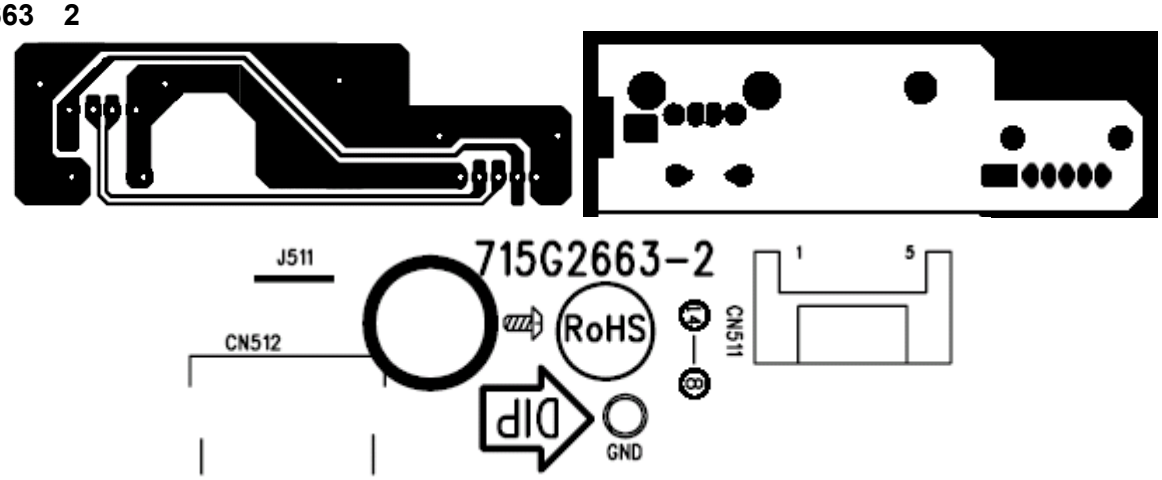
8.3 Key Board

715G3371 2

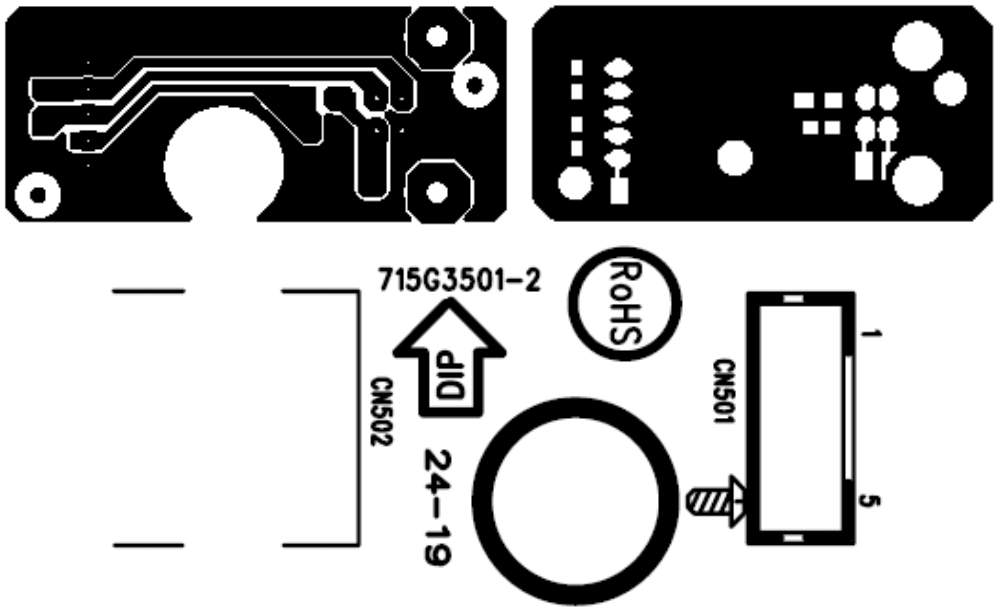


8.4 USB Board

715G2663 2



715G3501 2



9. Maintainability

9.1 Equipments and Tools Requirement

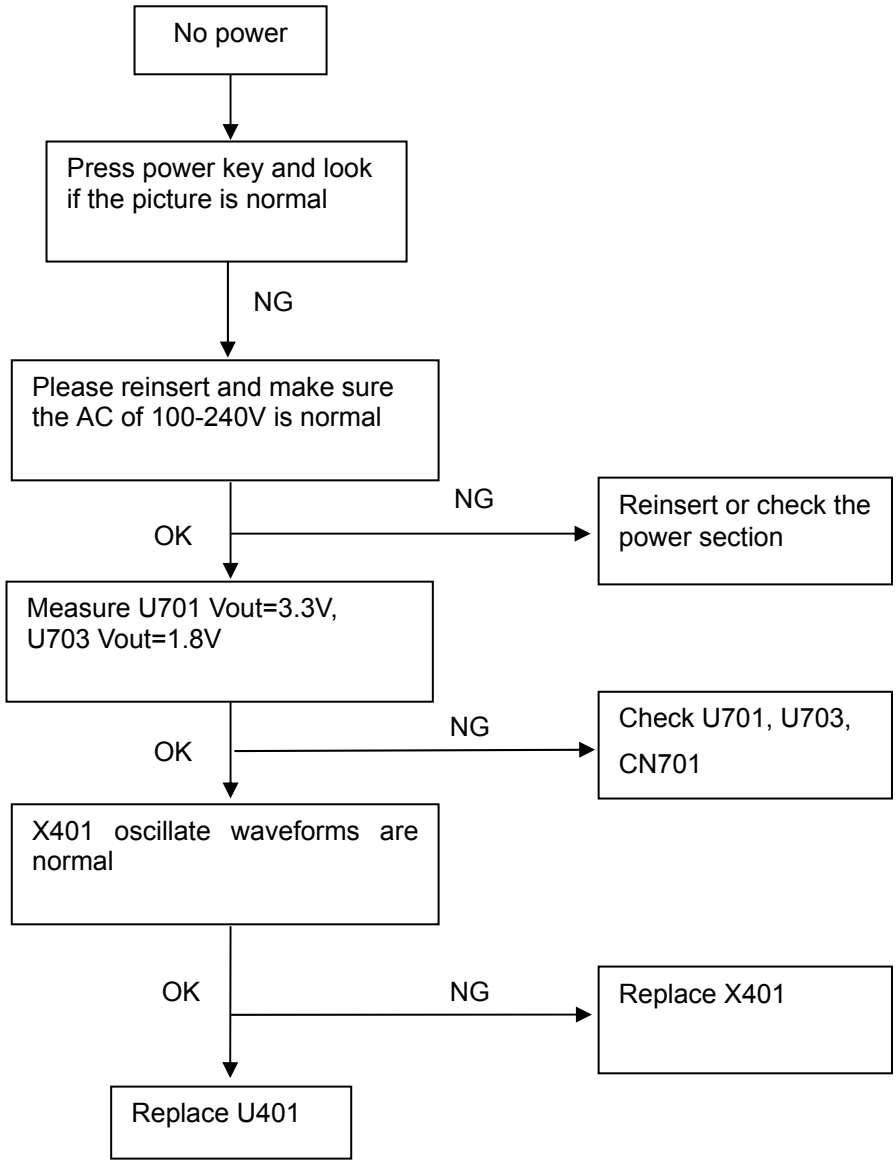
1. Multi-meter.
2. Oscilloscope.
3. Pattern Generator.
4. DDC Tool with an Compatible Computer.
5. Alignment Tool.
6. LCD Color Analyzer.
7. Service Manual.
8. User Manual.

9.2 Trouble Shooting

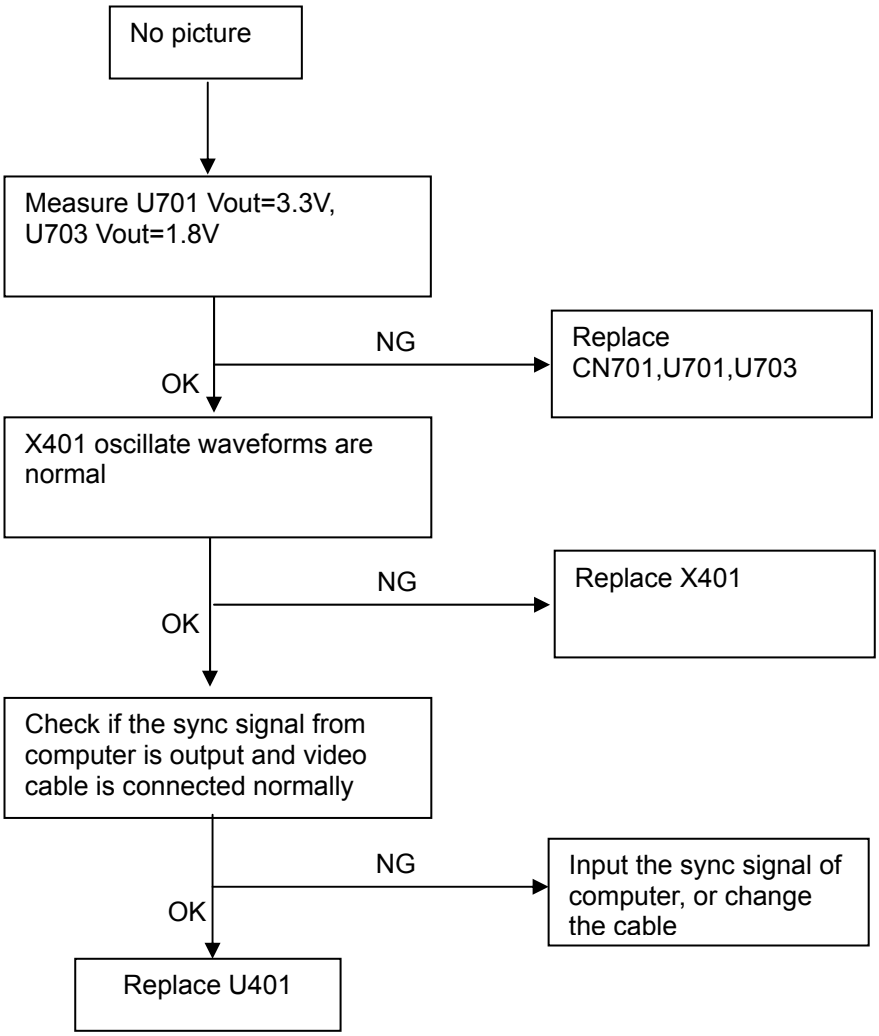
9.2.1 Main Board

715G3329 1 2

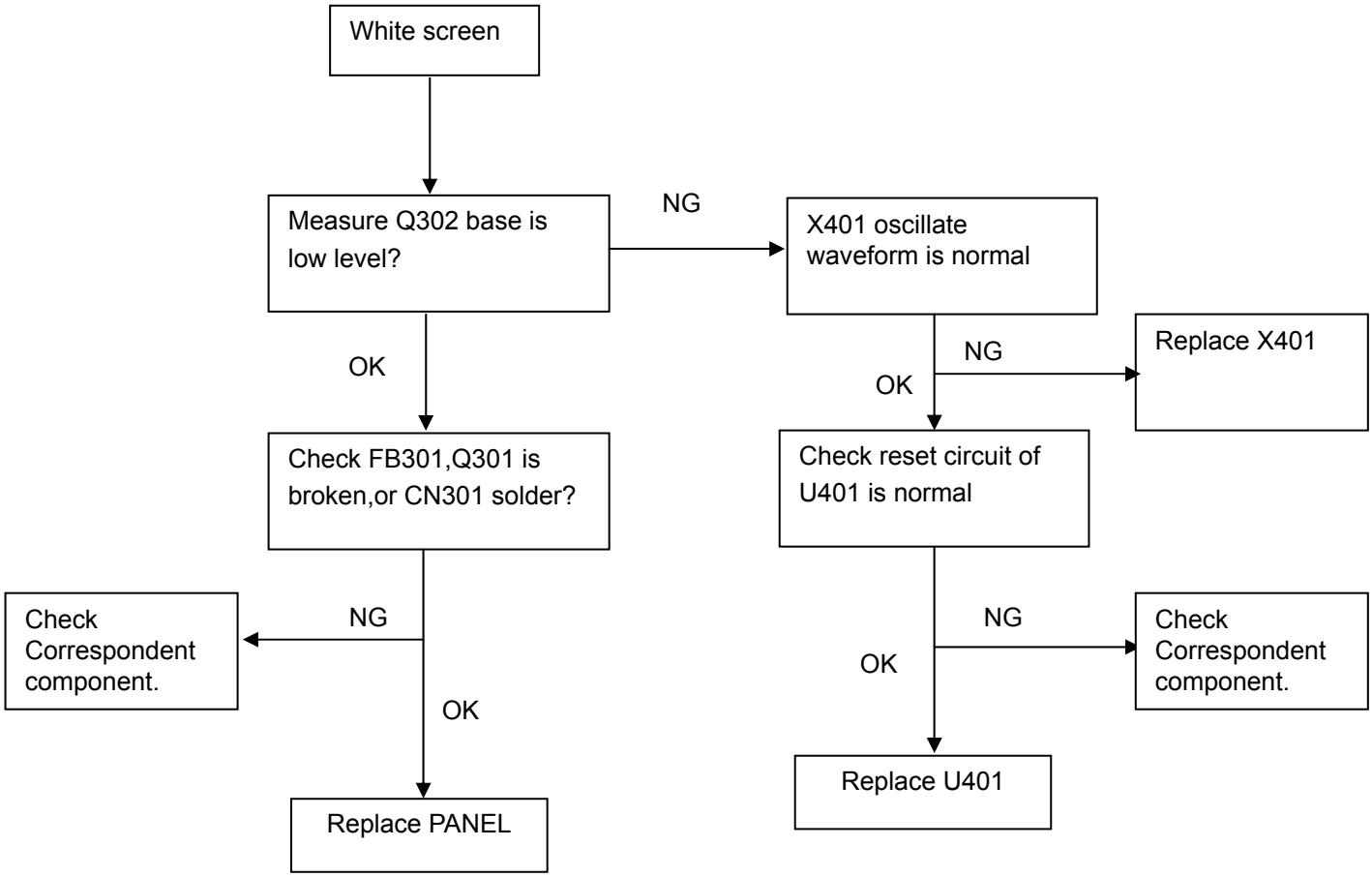
No Power



No Picture

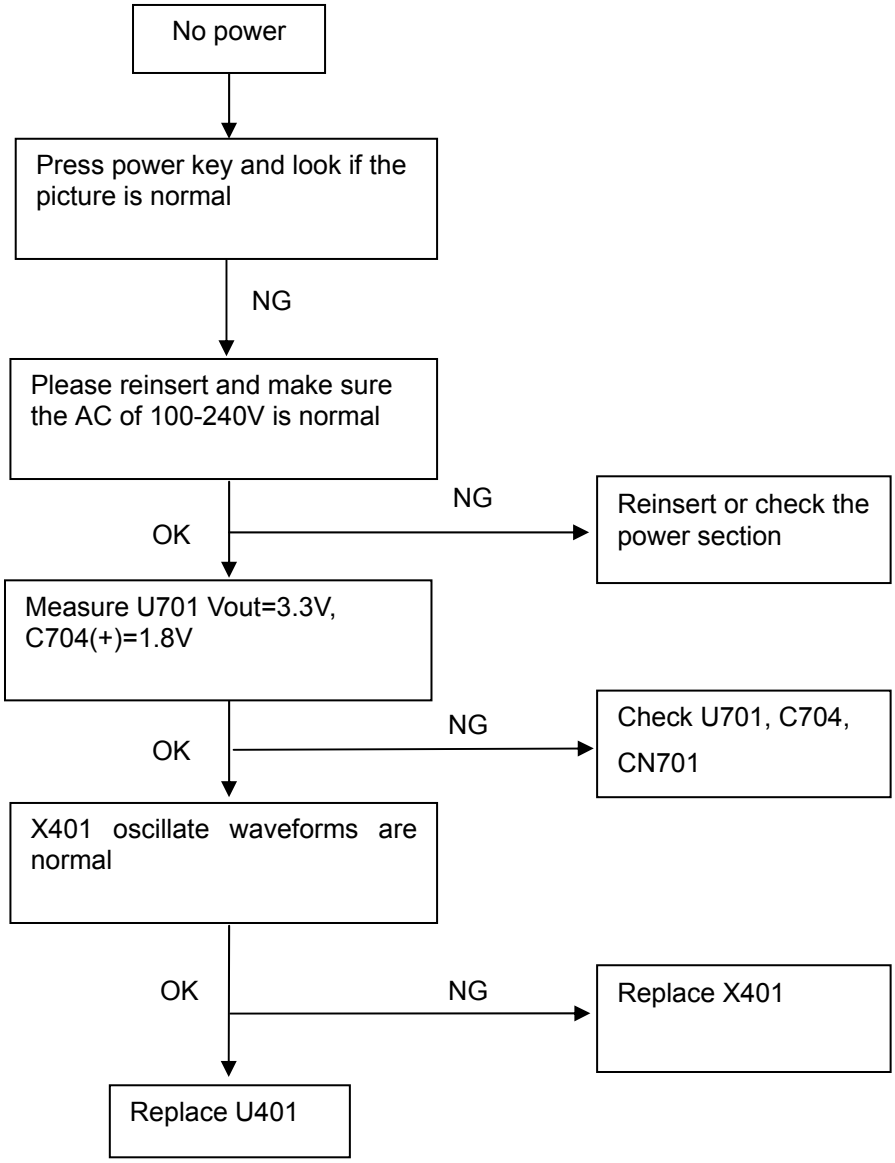

No picture
Measure U701 Vout=3.3V,
U703 Vout=1.8V
NG
Replace
CN701,U701,U703
OK
X401 oscillate waveforms are
normal
NG
Replace X401
OK
Check if the sync signal from
computer is output and video
cable is connected normally
NG
Input the sync signal of
computer, or change
the cable
OK
Replace U401

White Screen

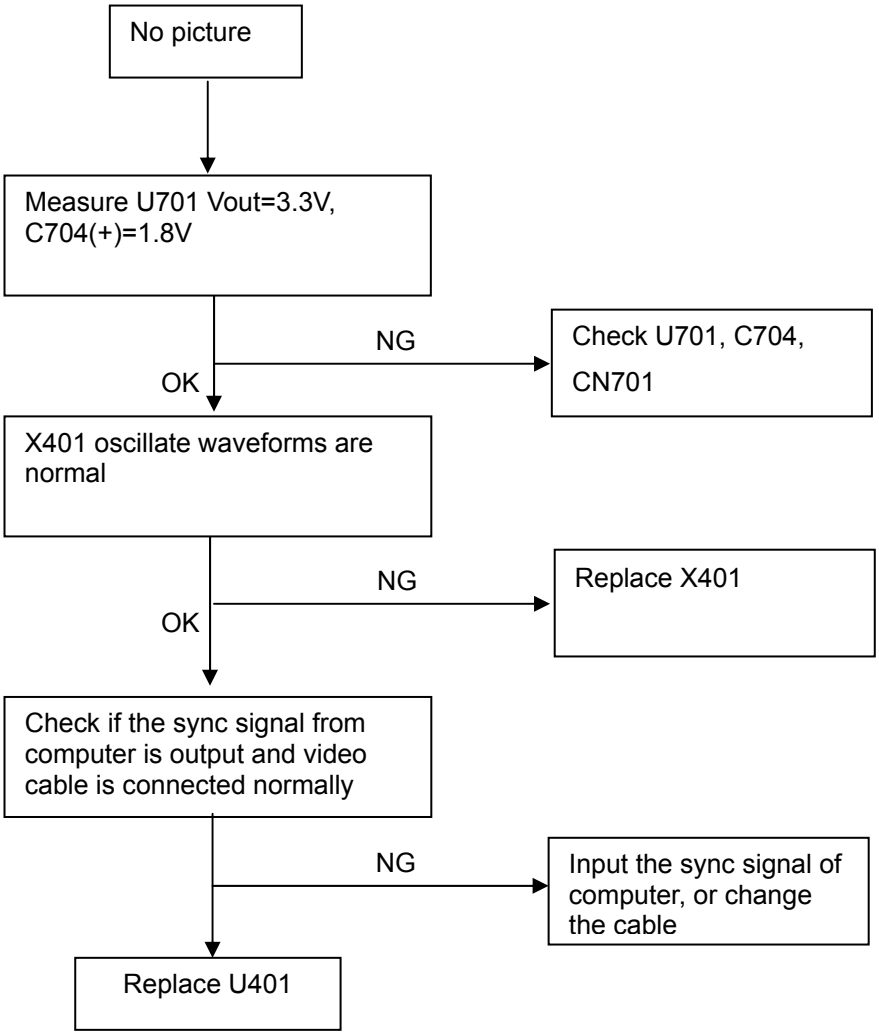


715G2883 1 6

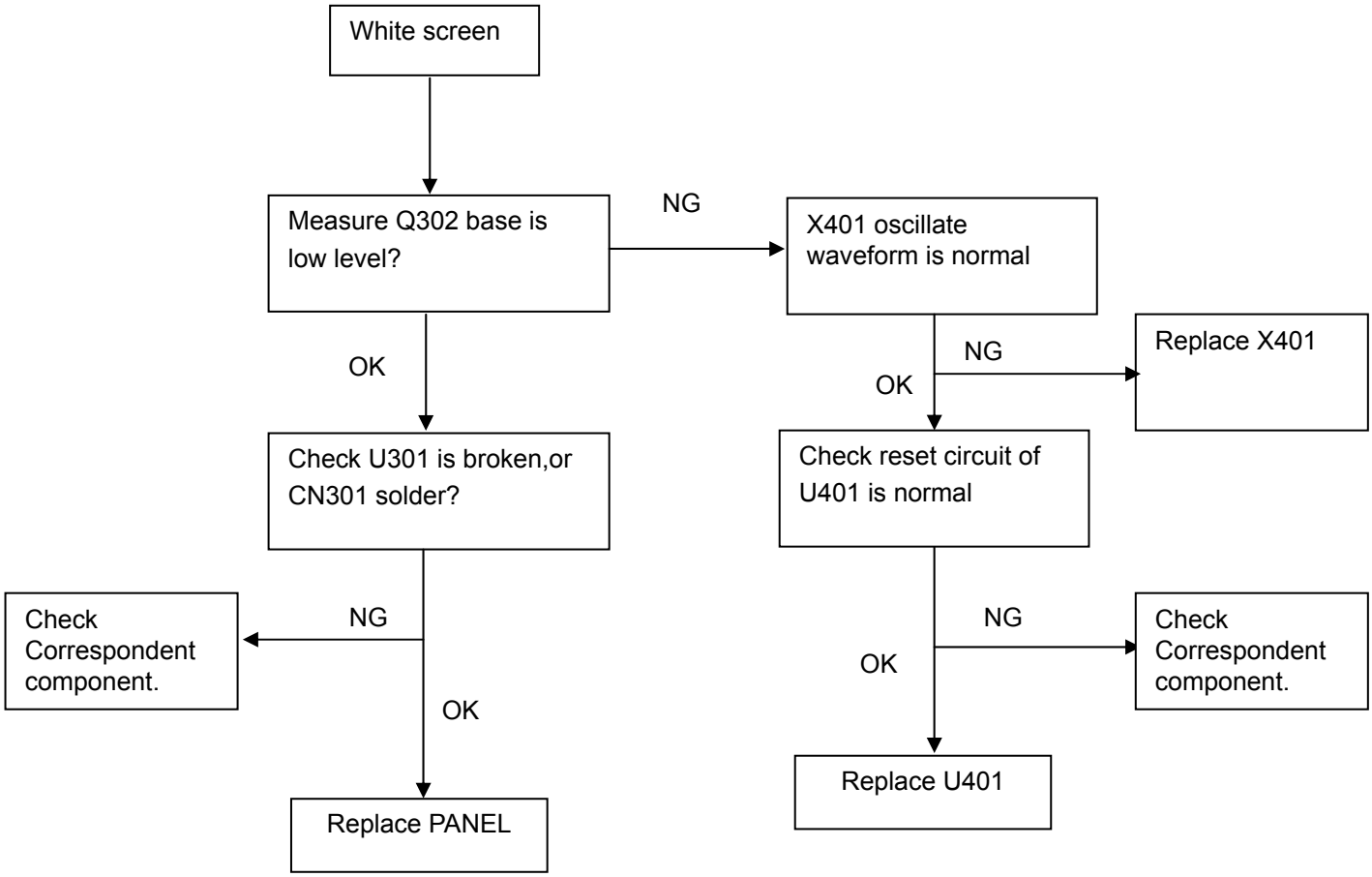
No power



No Picture


No picture
Measure U701 Vout=3.3V, C704(+)=1.8V
NG
Check U701, C704, CN701
OK
X401 oscillate waveforms are normal
NG
Replace X401
OK
Check if the sync signal from computer is output and video cable is connected normally
NG
Input the sync signal of computer, or change the cable
Replace U401

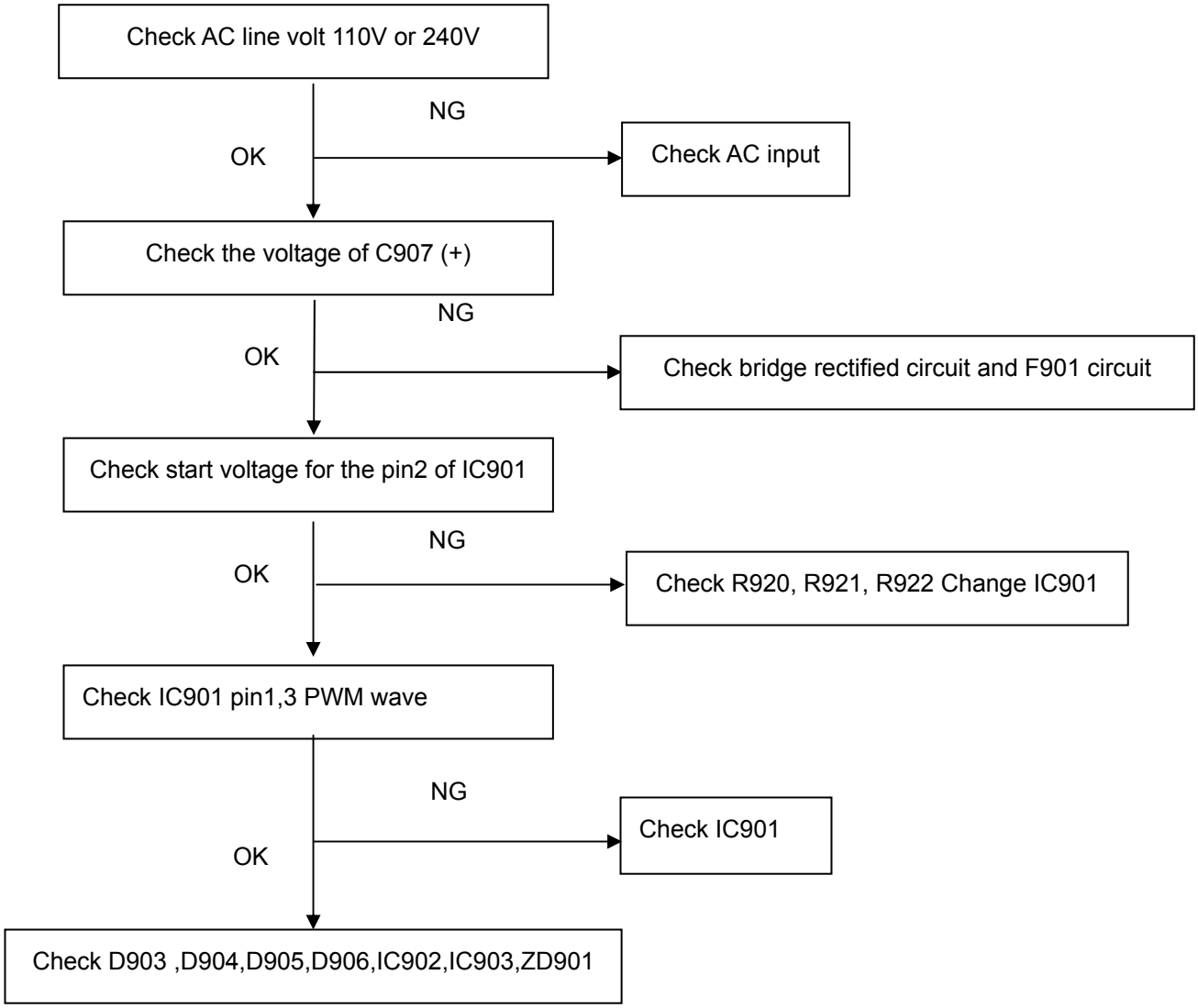
White Screen



9.2.2 Power Board

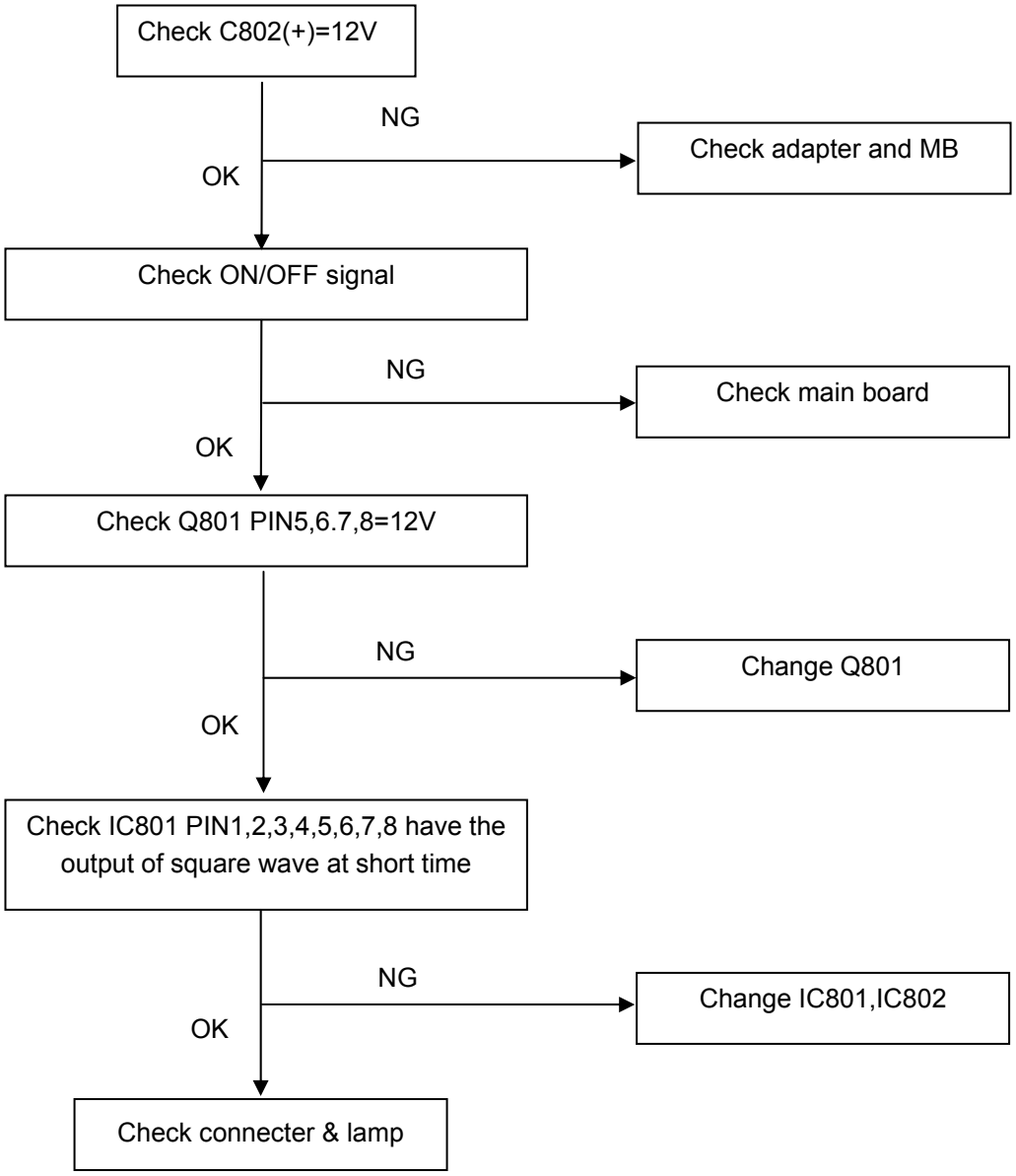
1) No power

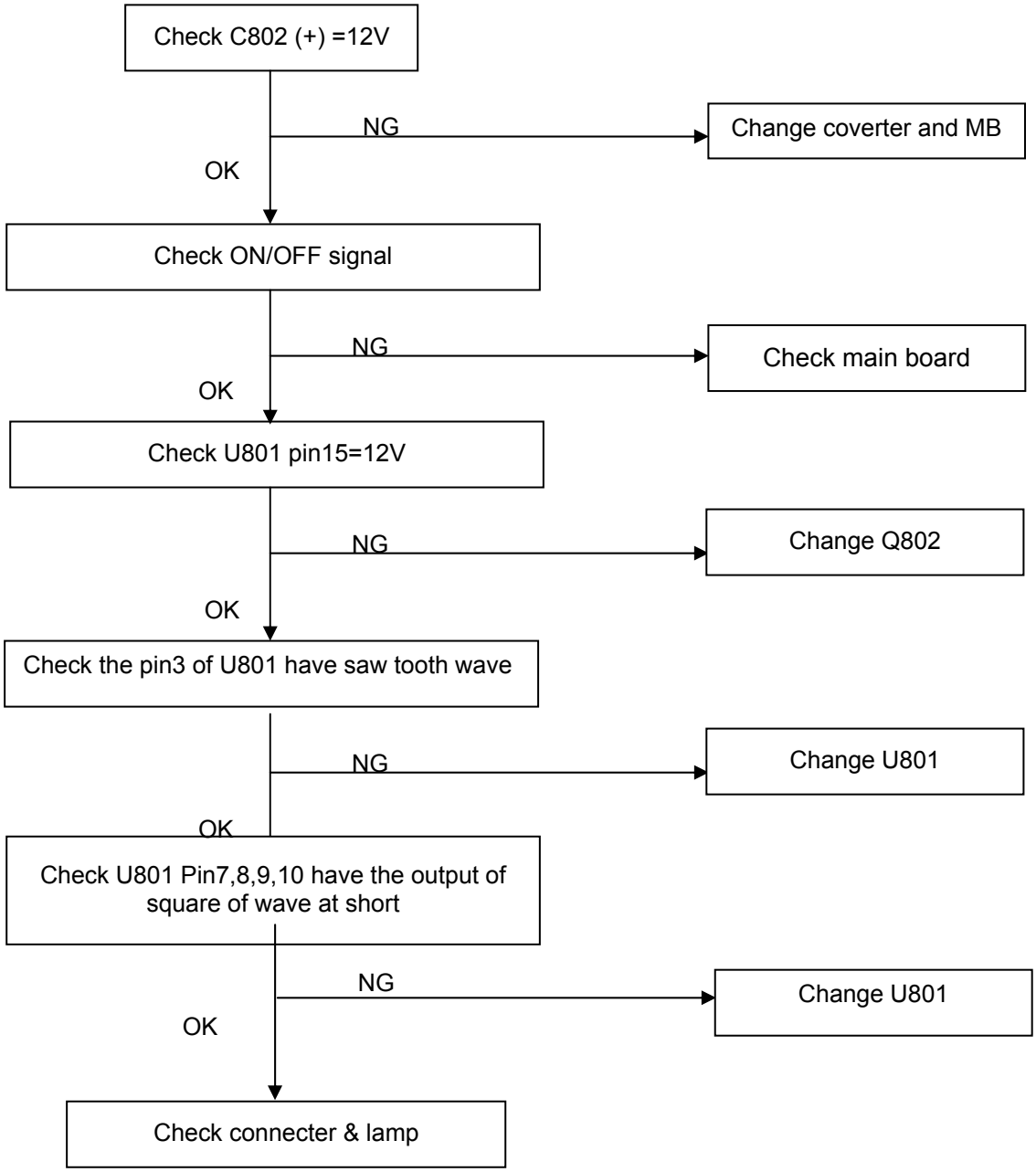
715G3189P01LED001S & 715G3189P02LED001S



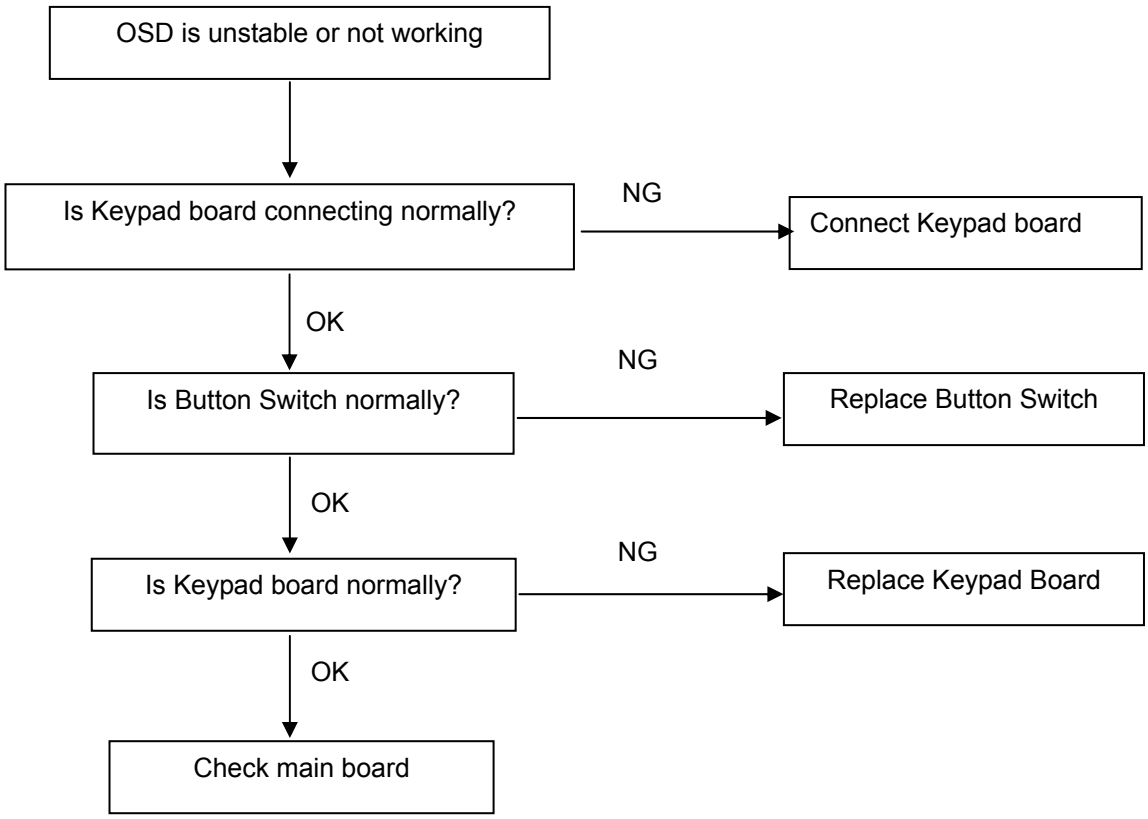
2.) No Backlight

715G3823P01000004S




Check C802 (+) =12V
NG
Change coverter and MB
OK
Check ON/OFF signal
NG
Check main board
OK
Check U801 pin15=12V
NG
Change Q802
OK
Check the pin3 of U801 have saw tooth wave
NG
Change U801
OK
Check U801 Pin7,8,9,10 have the output of square of wave at short
NG
Change U801
OK
Check connecter & lamp

9.2.3 Key Board



10.Firmware and DDC Instruction

ISP & DDC writing SOP
Please land ftp://cs.tpv.com.cn/ to load relevant writing SOP in the related files.

Accounts: TPVSQZ
Code: TPVZGDLSQZ20090707

11. White- Balance, Luminance Adjustment

Approximately 30 minutes should be allowed for warm up before proceeding White-Balance adjustment.

1. How to do the Chroma-7120 MEM. Channel setting

A. Reference to chroma 7120 user guide

B. Use " SC" key and " NEXT" key to modify x, y, Y value and use "ID" key to modify the

TEXT description Following is the procedure to do white-balance adjust

2. Setting the color temp. you want

A. MEM.CHANNEL 3 (6500K color):

6500K color temp. parameter is x = 313 ±30, y = 329 ±30, Y = 200 cd/m^2

B. MEM.CHANNEL 4 (7300K color):

7300K color temp. parameter is x = 302 ±30, y = 318 ±30, Y = 180 cd/m^2

C. MEM.CHANNEL 9 (9300K color):

9300K color temp. parameter is x = 283 ±30, y = 297 ±30, Y = 170 cd/m^2

D. MEM.CHANNEL 10 (SRGB color):

SRGB color temp. parameter is x = 313 ±30, y = 329 ±30, Y = 180 cd/m^2

3. Into Factory mode of AOC e2236Vwa:

Turn off the power, then press ∧ key, ∨ key and press the Power button at the same time, the next, press the Menu button.You will enter into the factory mode.

4. Bias adjustment:

Set the **Contrast** to 50; Adjust the **Brightness** to 90.

5. Gain adjustment:

A. Adjust Warm (6500K) color-temperature

1. Switch the chroma-7120 to **RGB-Mode** (with press "MODE" button)
2. Switch the MEM.channel to Channel 3 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show x = 313 ±30, y = 329 ±30, Y= 200 cd/ m^2
4. Adjust the RED on factory window until chroma 7120 indicator reached the value R=100
5. Adjust the GREEN on factory window until chroma 7120 indicator reachedthe value G=100
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value B=100
7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance =100±2

B. Adjust Normal (7300K) color-temperature

1. Switch the chroma-7120 to **RGB-Mode** (with press "MODE" button)
2. Switch the MEM.channel to Channel 4(with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show x = 302 ±30, y = 318 ±30, Y= 180 cd/ m^2
4. Adjust the RED on factory window until chroma 7120 indicator reached the value R=100
5. Adjust the GREEN on factory window until chroma 7120 indicator reachedthe value G=100
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value B=100
7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance =100±2

C. Adjust Cool (9300K) color-temperature

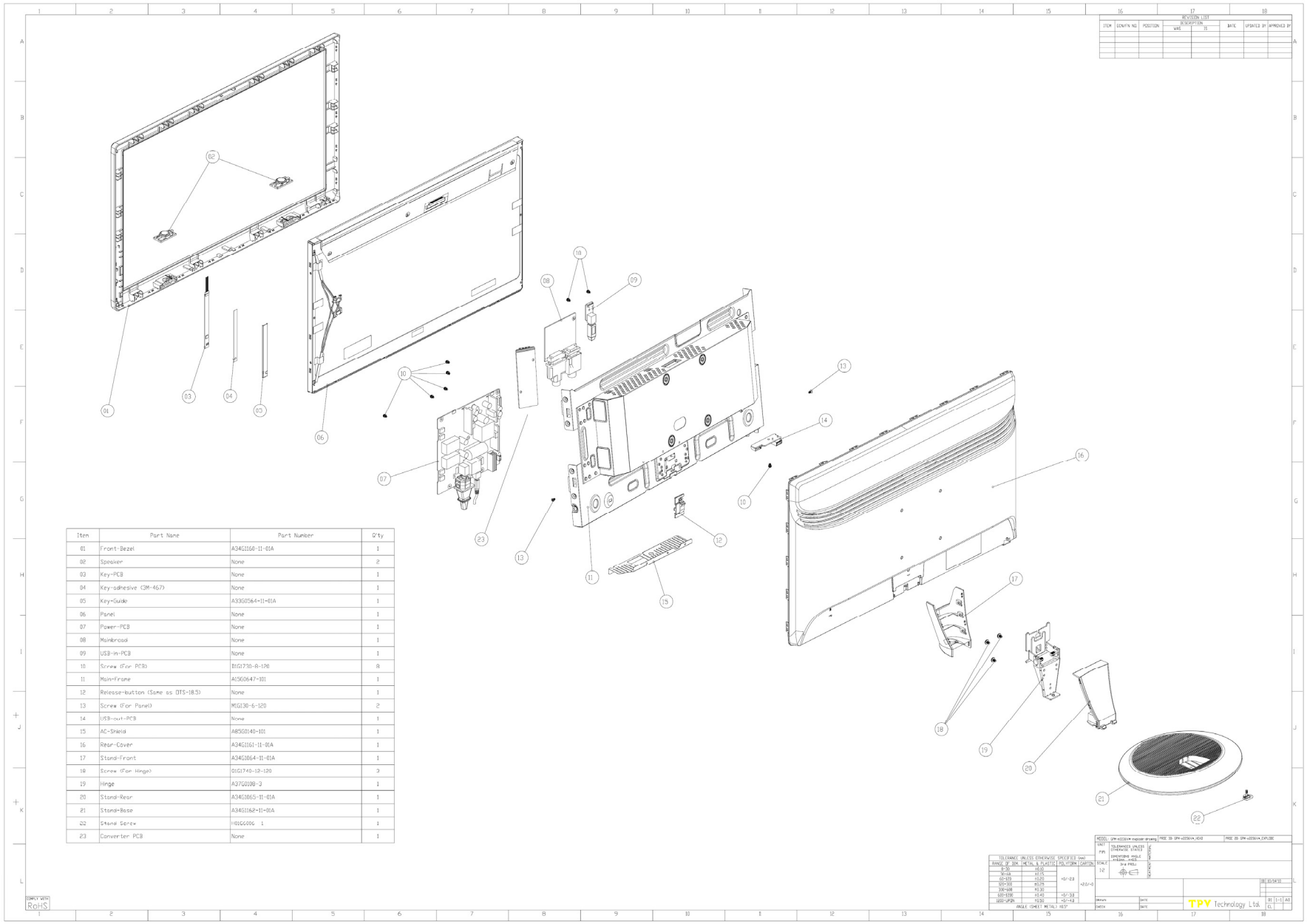
1. Switch the Chroma-7120 to **RGB-Mode** (with press “MODE” button)
2. Switch the MEM. Channel to Channel 9 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show x = 283 ±30, y = 297 ±30, Y= 170 cd/m^2
4. Adjust the RED on factory window until chroma 7120 indicator reached the value R=100
5. Adjust the GREEN1 on factory window until chroma 7120 indicator reached the value G=100
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value B=100
7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance =100±2

D. Adjust sRGB color-temperature

1. Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button)
2. Swit ch the MEM.channel to Channel 10 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show x = 313 ±30, y = 329 ±30, Y= 180 cd/m^2
4. Adjust the RED on factory window until chroma 7120 indicator reached the value R=100
5. Adjust the GREEN on factory window until chroma 7120 indicator reachedthe value G=100
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value B=100
7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance =100±2

E. Turn the Power-button off to quit from factory mode.

12. Monitor Exploded View



Item	Part Name	Part Number	Qty
01	Front-Bezel	A34G1160-11-01A	1
02	Speaker	None	2
03	Key-PCB	None	1
04	Key-adhesive (3M-467)	None	1
05	Key-Guide	A33G0564-11-01A	1
06	Panel	None	1
07	Power-PCB	None	1
08	Mainbroad	None	1
09	USB-in-PCB	None	1
10	Screw (For PCB)	BIG1730-A-120	8
11	Main-Frame	A15G0647-101	1
12	Release-button (Same as OTS-18.5)	None	1
13	Screw (For Panel)	MIG130-6-120	2
14	USB-out-PCB	None	1
15	AC-Shield	A85G0140-101	1
16	Rear-Cover	A34G1161-11-01A	1
17	Stand-Front	A34G1064-11-01A	1
18	Screw (For Hinge)	GIG1740-12-120	3
19	Hinge	A37G0109-3	1
20	Stand-Rear	A34G1065-11-01A	1
21	Stand-Base	A34G1162-11-01A	1
22	Stand Screw	M01GG006 1	1
23	Converter PCB	None	1

13. BOM List

Note: The parts information listed below are for reference only, and are subject to change without notice. Please go to http://cs.tpv.com.cn/hello1.asp for the latest information.

TI9AA8NB6WA2PNE

Location	Part No.	Description	Remark
	040G 58162435A	P/N LABEL FOR MANUAL PE BAG	
	050G 600 1 W	WHITE STRAP (1G004991)	
	052G 1186	SMALL TAPE	
	052G 1208 A	ALUMINIUM TAPE	
	052G 1211 B	Conductive Tape 85mm *40mm *0.09mm	
	052G 2191 A	PAPER TAPE	
E07801	078G0020E03 V	SPK 4OHM 2W (430+230)MM 40*20MM	
E08904	089G 173 56 4B	AUDIO CABLE	
E08905	089G 175 8 C	USB CABLE A+B 1.8M	
E08902	089G 715HAAE01	SIGNAL CABLE	
E08901	089G404A15N IS	POWER CORD	
E09504	095G176J 10E01	FFC CABLE 10PIN P0.5MM 565MM	
E09514	095G176J 10E02	FFC CABLE 10PIN P0.5MM 370MM	
E09508	095G8014 5XH09	HARNESS 5P(PLUG)-5P(2501) 200MM	
E09503	095G8014 7T588	HARNESS 7P(PLUG)-6P(C2003) 260MM	
	0D1G1730 8120	SCREW	
	0M1G 130 6120	SCREW M3X6	
	705GH934025	21.5"LCD STAND-BASE ASS'Y	
E750	750GLU215H1614N000	PANEL M215HW01 V600 SH AUO	
E750	750GLU215H1624N000	PANEL M215HW01 V60A SH AUO	2nd source
	A15G0647F02	Main Frame-e2236	
	A34G1160AEDC2B0130	BEZEL e2236	
	A34G1161AEDABS0100	REAR COVER21.5"	
	A85G0140301MCM	AC Shield	
	ADPC91503HD3	ADAPTER BOARD	
	H12G6200 10	RUBBER PAD	
	H26G 800504 2A	barcode	
	H40G 22N61540A	ID LABEL	
	H40G 58161569A	USB LABEL	
	H40G 58261537A	e936Vw POP LABEL	
	H40G 58261538A	Win7 GOLD EPA LABEL	
	H40G 58261567A	CARTON LABEL	
	H41G780961517A	QSG	
	H44GB005101	EPS	
	H44GB005201	EPS	
	H44GB005615 7B	CARTON	
	H45G 77 6	PE PACKING	
	H45G 87 18 12	EPE_COVER_MONITOR	
	H70G200961543A	CD MANUAL	
	KEPC9HAB	KEY BOARD	
	LNPC9B362AHD1	CONVERTER BOARD	
	Q12G6600 6	FOOT	
	Q45G 76 28 H A	PE BAG FOR MANUAL	
	Q45G 76 28V13 A	PE BAG	
	Q50G 4 10	TIE (Y1900221)	

	Q52G 1185 99	big carton tape for aoc	
E08907	S89G179T30NA05	FFC CABLE	
	USB9HA1	USB BOARD	
	USB9HA2	USB BOARD	
	0Q1G1740 12120	SCREW	
	A34G1064AED 1S0100	Stand-Front	
	A34G1065ABJ 1S0100	Stand-Back	
	A34G1162AED 1S0130	BASE	
	A37G0108 3	Hinge	
	H01G6006 1	Screw	
	756GH9CB A1097	MAIN BOARD-CBPC9A8A1H6	
SMTCR-U402	100GAMAI020W11	MCU ASS'Y-756GH9CB A1097	
GND1	009G6005 1	GROUND TERMINAL	
GND2	009G6005 1	GROUND TERMINAL	
GND3	009G6005 1	GROUND TERMINAL	
CN602	033G3802 4	WAFER PH-4	
CN903	033G380210B Y L	CONN 2.0 10P	
	040G 45762412B	CBPC LABEL	
IC902	056G 139 7 1	IC EL817MA M-TYPE	
NR901	061G 58100 WD	RST NTCR 10 OHM +-20% 5A THINKING	
C904	063G107K2246S1	X2 CAP 0.22UF K 275VAC	
C903	065G306K3312B3	Y1 CAP 330PF K 250VAC CD	
C902	065G306K3312B3	Y1 CAP 330PF K 250VAC CD	
C900	065G306M1022BP	1000PF Y1.CAP	
C918	067G 3151007KV	ELCAP 10UF M 50V 105℃ KINGNICHI	
C907A	067G 40Z10115L	EC 100uF 450V M 18*36mm	
C912	067G215D6814LV	LOW ESR EC 680uF 25V M 10*20mm	
C914	067G215S4713LV	LOW ESR EC 470uF 16V M 10*12.5mm	
L901	073G 174 65 H2	LINE FILTER 30mH MIN	
L903	073G 253 91 H	CHOKE COIL	
L902	073G 253 91 H	CHOKE COIL	
T901	080GL19P 1 H	POWER X'FMR 1.1mH 10%	
CN901	087G 501 32 DL	AC SOCKET DIP 3PIN+2PIN GROUND	
CN601	088G 30214K DC	PHONE JACK 5PIN +开口向下弹片	
BD901	093G 50460514	BRIDGE KBP306G 3A/800V TSC	
D904	093G 60923	DIODE SR504-30 DO-201AD	
D906	093G 60923	DIODE SR504-30 DO-201AD	
D903	093G 60924	DIODE SR510-22 DO-201AD	
D905	093G 60924	DIODE SR510-22 DO-201AD	
CN902	095G 825 9DE08	HARNESS 9P-9P 200MM	
E09502	095G801410DE06	HARNESS 10P(1253)-10P(PLUG) 310MM	
	705GQ956024	IC901 ASS'Y	
	AD91503HD1SMT	ADAPTER BOARD FOR SMT	
HS4	Q90G6295 3	HEAT SINK	
IC601	056G 616 51	IC APA2071JI-TUG 3.1W DIP-16	
CN402	033G3802 7B Y L	conn 2.0 7p	
CN701	033G3802 9B Y L	CONN 2.0 9P	
CN301	033G801930F CH JS	CONNECTOR	
	040G 45762412B	CBPC LABEL	
R708	061G152M33964L	RST MOFR 3.3 OHM +-5% 2WS	
CN101	088G 35315F XH	D-SUB 15PIN VERTICAL CONN WITH SCREW	

CN102	088G 35424F D	DVI 24PIN CONN F ATTACHED SCREW	
X401	093G 2253B J	NXS14.31818AC32F-KAB10	
E09513	095G8022 6X504	HARNESS 6P-6P 200MM	
	A33G0564 2 1L0100	Key-Guide	
	Q52G 3 75	3M DOUBLE FACE TAPE	
	040G 45762412B	CBPC LABEL	
C802	067G 4151017KV	EC 100uF 50V ED 8*12	
C804	067G 415479 9K	EC 4.7UF 20% 100V ED 8*12	
	LN9B362AHD1SMT	CONVERTER BOARD FOR SMT	
CN511	033G3802 5 BH L	CONNECTOR 5PIN	
CN512	088G 352 2 XH	USB CONN	
	715G2663 2	USB BOARD PCB	
CN501	033G3802 5B Y L	CONN 2.0 5P	
CN502	088G 351 2B XH	USB CONN	
IC901	056G 581 20	IC TOP255EN eSIP-7C	
	0M1G 930 8120	SCREW	
	Q11G0026 1	cable clip	
HS1	Q90G6263 6	HEAT SINK	
Q608	057G 417 18 T	PMBT3904 SOT-23	
Q607	057G 417517	Tra LMBT3906LT1G -200mA/-40V SOT-23 LRC	
R623	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
R628	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
R917	061G06031001FT	RST CHIP 1K 1/10W 1%	
R913	061G06031002FT	RST CHIP 10K 1/10W 1%	
R601	061G0603103 JF	RST CHIPR 10K OHM +-5% 1/10W FENGHUA	
R603	061G0603103 JF	RST CHIPR 10K OHM +-5% 1/10W FENGHUA	
R609	061G0603103 JF	RST CHIPR 10K OHM +-5% 1/10W FENGHUA	
R610	061G0603103 JF	RST CHIPR 10K OHM +-5% 1/10W FENGHUA	
R613	061G0603103 JF	RST CHIPR 10K OHM +-5% 1/10W FENGHUA	
R614	061G0603103 JF	RST CHIPR 10K OHM +-5% 1/10W FENGHUA	
R602	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R604	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R605	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R912	061G0603103 JW	RST CHIP 10K 1/10W 5% WALSIN	
R606	061G0603203 JF	RST CHIPR 20K OHM +-5% 1/10W FENGHUA	
R607	061G0603203 JF	RST CHIPR 20K OHM +-5% 1/10W FENGHUA	
R916	061G0603471 JT	RST CHIPR 470OHM +-5% 1/10W TZAI YUAN	
R615	061G0603472 JF	RST CHIPR 4.7KOHM +-5% 1/10W FENGHUA	
R611	061G0603563 JF	RST CHIPR 56KOHM 5% 1/10W FENGHUA	
R612	061G0603751 JF	RST CHIPR 750OHM +- 5% 1/10W FENGHUA	
R915	061G06039311FT	RST CHIPR 9.31k 1% 1/10W	
R608	061G0805000 JF	RST CHIPR 0 OHM +-5% 1/8W FENGHUA	
R923	061G0805103 JT	RST CHIPR 10K OHM +- 5% 1/8W TZAI YUAN	
R903	061G08051102FT	RST CHIP 11K 1/8W 1%	
R924	061G0805689 JT	RST CHIPR 6.8R +-5% 1/8W TZAI YUAN	
R925	061G08058202FT	RST CHIPR 82K +-1% 1/8W TZAI YUAN	
RJ601	061G1206000 JT	RST CHIPR MAX0R05 1/4W TZAI YUAN	
F601	061G12060004JT	RST CHIP MAX 0R05 1/4W TZAI YUAN	
R927	061G12060004JT	RST CHIP MAX 0R05 1/4W TZAI YUAN	
R910	061G1206101 JT	RST CHIPR 100 OHM +-5% 1/4W TZAI YUAN	
R926	061G1206229 JT	RST CHIPR 2R2 +-5% 1/4W TZAI YUAN	

R909	061G1206300 JT	RST CHIPR 30 OHM 1/4W TZAI YUAN	
R908	061G1206300 JT	RST CHIPR 30 OHM 1/4W TZAI YUAN	
R907	061G1206300 JT	RST CHIPR 30 OHM 1/4W TZAI YUAN	
R906	061G1206300 JT	RST CHIPR 30 OHM 1/4W TZAI YUAN	
R905	061G1206300 JT	RST CHIPR 30 OHM 1/4W TZAI YUAN	
R904	061G1206300 JT	RST CHIPR 30 OHM 1/4W TZAI YUAN	
R922	061G1206335 JT	RST CHIPR 3.3 MOHM +-5% 1/4W TZAI YUAN	
R921	061G1206335 JT	RST CHIPR 3.3 MOHM +-5% 1/4W TZAI YUAN	
R920	061G1206335 JT	RST CHIPR 3.3 MOHM +-5% 1/4W TZAI YUAN	
R902	061G1206624 JT	RST CHIPR 620 KOHM +-5% 1/4W TZAI YUAN	
R901	061G1206624 JT	RST CHIPR 620 KOHM +-5% 1/4W TZAI YUAN	
R900	061G1206624 JT	RST CHIPR 620 KOHM +-5% 1/4W TZAI YUAN	
C611	065G060310131J F	CAP CHIP 0603 100PF J 50V NPO	
C610	065G060310131J F	CAP CHIP 0603 100PF J 50V NPO	
C916	065G060310312K F	CAP CHIP 0603 10NF K 16V X7R	
C603	065G060310432K F	CAP CHIP 0603 0.1UF K 50V X7R	
C614	065G060310432K F	CAP CHIP 0603 0.1UF K 50V X7R	
C606	065G060347412K T	CAP CHIP 0603 0.47UF K 16V X7R	
C601	065G060347412K T	CAP CHIP 0603 0.47UF K 16V X7R	
C905	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C915	065G080510432K Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C917	065G080510432K Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C609	065G080510522K T	CAP CHIP 0805 1UF K 25V X7R	
C608	065G080522522K T	CAP CHIP 0805 2.2UF K 25V X7R	
C901	065G080582031J F	CAP CHIP 0805 82PF J 50V NPO	
C920	065G1206222B2K T	CAP CHIP 1206 2200PF K 630V X7R	
C919	065G1206222B2K T	CAP CHIP 1206 2200PF K 630V X7R	
C911	065G1206222B2K T	CAP CHIP 1206 2200PF K 630V X7R	
C910	065G1206222B2K T	CAP CHIP 1206 2200PF K 630V X7R	
	AD91503HD1AI	ADAPTER BOARD FOR AI	
C419	067G 3151007KB	EC 10uF M 50V 5*11	
C704	067G 3151014KB	EC 100uF M 25V 6.3*11	
C305	067G 3151014KB	EC 100uF M 25V 6.3*11	
C707	067G 3151014KB	EC 100uF M 25V 6.3*11	
U401	056G 562574	IC TSUMU58EHL-LF-1	
U703	056G 563 31	IC AZ1117D-1.8-E1	
U701	056G 585 4A	IC AP1117E33L-13	
U103	056G 662502	IC ESD AZC199-04S SOT23-6L	
U104	056G 662502	IC ESD AZC199-04S SOT23-6L	
U105	056G 662502	IC ESD AZC199-04S SOT23-6L	
U106	056G 662502	IC ESD AZC199-04S SOT23-6L	
U107	056G 662502	IC ESD AZC199-04S SOT23-6L	
U402	056G1133137	IC MX25L2026MI-12G SOP-8	
U102	056G1133918	IC AT24C02BN-SH-T 8-SOIC	
U101	056G1133918	IC AT24C02BN-SH-T 8-SOIC	
Q302	057G 417 12 T	KEC 2N3904S-RTK/PS	
Q701	057G 417 12 T	KEC 2N3904S-RTK/PS	
Q405	057G 417 13 T	KEC 2N3906S-RTK/PS	
Q401	057G 417518	TRA LMBT3904LT1G 200mA/40V SOT-23 LRC	
Q301	057G 763 1	A03401 SOT23 BY AOS(A1)	
R452	061G0402000	RST CHIP MAX 0R05 1/16W	

R434	061G0402000	RST CHIP MAX 0R05 1/16W	
R423	061G0402000	RST CHIP MAX 0R05 1/16W	
R419	061G0402000	RST CHIP MAX 0R05 1/16W	
R418	061G0402000	RST CHIP MAX 0R05 1/16W	
R414	061G0402000	RST CHIP MAX 0R05 1/16W	
R134	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	
R132	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	
R131	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	
R130	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	
R129	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	
R128	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	
R127	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	
R126	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	
R119	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R409	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R415	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R416	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R417	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R422	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R424	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R428	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R706	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R118	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R117	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R115	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R114	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R113	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R111	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R109	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R105	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R101	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R705	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	
R404	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	
R402	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	
R104	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	
R103	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	
R703	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R702	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R436	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R412	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R407	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R308	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R305	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R135	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R133	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R120	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R421	061G0402104	RST CHIPR 100 KOHM +-5% 1/16W	
R106	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W	
R107	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W	
R704	061G0402223	RST CHIPR 22 KOHM +-5% 1/16W	
R406	061G0402223	RST CHIPR 22 KOHM +-5% 1/16W	

R304	061G0402223	RST CHIPR 22 KOHM +-5% 1/16W	
R401	061G0402390 0F	RST CHIP 390R 1/16W 1%	
R432	061G0402390 1F	RST CHIPR 3.9KOHM +-1% 1/16W	
R433	061G0402390 1F	RST CHIPR 3.9KOHM +-1% 1/16W	
R110	061G0402471	RST CHIPR 470 OHM +-5% 1/16W	
R303	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R138	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R137	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R136	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R125	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R124	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R123	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R306	061G0402563	RST CHIP 56K 1/16W 5%	
R139	061G0402682	RST CHIP 6K8 1/16W 5%	
R116	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	
R112	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	
R108	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	
R102	061G0603000	RST CHIP MAX 0R05 1/10W	
R405	061G0603000	RST CHIP MAX 0R05 1/10W	
R461	061G0603000	RST CHIP MAX 0R05 1/10W	
R456	061G0603220	RST CHIPR 22 OHM +-5% 1/10W	
R301	061G1206221	RST CHIPR 220 OHM +-5% 1/4W	
R302	061G1206221	RST CHIPR 220 OHM +-5% 1/4W	
C122	065G0402102 32	1000PF +-10% 50V X7R	
C121	065G0402102 32	1000PF +-10% 50V X7R	
C107	065G0402102 32	1000PF +-10% 50V X7R	
C413	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C414	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C415	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C416	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C417	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C422	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C432	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C701	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C702	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C705	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C708	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C709	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C712	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C713	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C115	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C124	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C301	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C304	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C403	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C404	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C405	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C406	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C407	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C408	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C409	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	

C410	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C411	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C412	065G040210412K A	CAP CHIP 0402 100nF K 16V X7R	
C436	065G0402105 A5	CAP 0402 1UF K 10V X5R	
C104	065G0402220 31	CHIP 22PF 50V NPO	
C103	065G0402220 31	CHIP 22PF 50V NPO	
C116	065G0402224 17	CAP CER 0.22UF -20%-80%	
C117	065G0402224 17	CAP CER 0.22UF -20%-80%	
C302	065G0402224 17	CAP CER 0.22UF -20%-80%	
C401	065G0402224 17	CAP CER 0.22UF -20%-80%	
C420	065G0402470 31	MLCC 0402 CAP 47PF J 50V NPO	
C421	065G0402470 31	MLCC 0402 CAP 47PF J 50V NPO	
C114	065G0402473 12	CHIP 0.047uF 16V X7R	
C111	065G0402473 12	CHIP 0.047uF 16V X7R	
C110	065G0402473 12	CHIP 0.047uF 16V X7R	
C108	065G0402473 12	CHIP 0.047uF 16V X7R	
C106	065G0402473 12	CHIP 0.047uF 16V X7R	
C102	065G0402473 12	CHIP 0.047uF 16V X7R	
C113	065G0402509 31	CHIP 5pF 50V NPO	
C109	065G0402509 31	CHIP 5pF 50V NPO	
C105	065G0402509 31	CHIP 5pF 50V NPO	
C303	065G060310522K T	CAP CHIP 0603 1UF K 25V X7R	
C402	065G0805475 A5	0805 4.7UF +-10% 10V X5R	
FB301	071G 56K121 M	CHIP BEAD	
FB410	071G 56V301 B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB404	071G 56V301 B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB402	071G 56V301 B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB401	071G 56V301 B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB104	071G 59G301	CHIP BEAD 300OHM	
FB105	071G 59G301	CHIP BEAD 300OHM	
FB110	071G 59G301	CHIP BEAD 300OHM	
FB103	071G 59K190 B	19 OHM BEAD	
FB102	071G 59K190 B	19 OHM BEAD	
FB101	071G 59K190 B	19 OHM BEAD	
D104	093G 64 42 PP	BAV70 SOT-23	
D108	093G 64 42 PP	BAV70 SOT-23	
ZD104	093G 39GA01 T	RLZ5.6B	
	715G3329 1 2	MAIN BOARD PCB	
CN001	033G8034 6H H X	WAFER 1.0mm SMT 6P	
U001	056G 665 43	IC CY8C20180-LDX2I QFN-16(COL)	
R012	061G0603000	RST CHIP MAX 0R05 1/10W	
R009	061G0603000	RST CHIP MAX 0R05 1/10W	
R008	061G0603000	RST CHIP MAX 0R05 1/10W	
R001	061G0603000	RST CHIP MAX 0R05 1/10W	
R002	061G0603101	RST CHIPR 100 OHM +-5% 1/10W	
R007	061G0603561	RST CHIPR 560 OHM +-5% 1/10W	
R006	061G0603561	RST CHIPR 560 OHM +-5% 1/10W	
R005	061G0603561	RST CHIPR 560 OHM +-5% 1/10W	
R004	061G0603561	RST CHIPR 560 OHM +-5% 1/10W	
C001	065G0603102 31	CHIP 1000PF 50V NPO	
C002	065G0603225 A5	CHIP 2.2uF 10V X5R	

LED001	081G15BY 2 GP	LED GPTD1204BOC1-A GP	
ZD005	093G 39S 34 T	UDZSNP5.6B ROHM	
ZD004	093G 39S 34 T	UDZSNP5.6B ROHM	
	715G3371 2	KEY BOARD PCB	
CN803	033G801910Y H	FPC CONN. 0.5mm SMT 10P	
CN802	033G801910Y H	FPC CONN. 0.5mm SMT 10P	
CN801	033G803210F HR	CONNECTOR	
IC802	056G 379167	IC TA9690GN-A-0-TR SOP-24	
IC801	056G 379167	IC TA9690GN-A-0-TR SOP-24	
Q801	057G 763 92	FET P8008HV 4A/80V SOP-8	
R811	061G0603000 JT	RST CHIP MAX 0R05 1/10W TZAI YUAN	
R844	061G0603100 JT	RST CHIP 10R 1/10W 5% TZAI YUAN	
R807	061G0603100 JT	RST CHIP 10R 1/10W 5% TZAI YUAN	
R814	061G0603100 JT	RST CHIP 10R 1/10W 5% TZAI YUAN	
R812	061G0603101 JT	RST CHIP 100R 1/10W 5% TZAI YUAN	
R820	061G0603101 JT	RST CHIP 100R 1/10W 5% TZAI YUAN	
R810	061G0603102 JT	RST CHIP 1K 1/10W 5% TZAI YUAN	
R803	061G0603102 JT	RST CHIP 1K 1/10W 5% TZAI YUAN	
R813	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R817	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R806	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R821	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R819	061G0603104 JT	RST CHIP 100K 1/10W 5% TZAI YUAN	
R809	061G0603104 JT	RST CHIP 100K 1/10W 5% TZAI YUAN	
R822	061G0603105 JT	RST CHIP 1M 1/10W 5% TZAI YUAN	
R840	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R841	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R826	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R827	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R835	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R834	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R828	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R829	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R830	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R831	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R832	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R833	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R839	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R838	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R837	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R836	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R805	061G0603124 JT	RST CHIP 120K 1/10W 5% TZAI YUAN	
R816	061G0603124 JT	RST CHIP 120K 1/10W 5% TZAI YUAN	
R824	061G06034702FT	RST CHIP 47K 1/10W 1%	
R823	061G0603472 JT	RST CHIP 4K7 1/10W 5% TZAI YUAN	
R815	061G06035602FT	RST CHIPR 56 KOHM +-1% 1/10W	
R843	061G06035602FT	RST CHIPR 56 KOHM +-1% 1/10W	
R842	061G0603563 JT	RST CHIPR 56KOHM +-5% 1/10W TZAI YUAN	
R804	061G0603563 JT	RST CHIPR 56KOHM +-5% 1/10W TZAI YUAN	
R825	061G1206000 JT	RST CHIPR MAX0R05 1/4W TZAI YUAN	
F801	061G12060004JT	RST CHIP MAX 0R05 1/4W TZAI YUAN	

R802	061G1206308 JT	RST CHIPR 0.3 OHM +-5% 1/4W	
R801	061G1206308 JT	RST CHIPR 0.3 OHM +-5% 1/4W	
C816	065G060310232K A	CAP CHIP 0603 1000pF K 50V X7R	
C808	065G060347412K T	CAP CHIP 0603 0.47UF K 16V X7R	
C805	065G060347412K T	CAP CHIP 0603 0.47UF K 16V X7R	
C803	065G080510432K A	CAP CHIP 0805 100nF K 50V X7R	
C801	065G080510432K A	CAP CHIP 0805 100nF K 50V X7R	
C809	065G080522512K A	CAP CHIP 0805 2.2uF K 16V X7R	
C807	065G080522512K A	CAP CHIP 0805 2.2uF K 16V X7R	
C806	065G080522525K T	CAP CHIP 0805 2.2uF K 25V X5R	
L801	073G253S 80 DN	SMD CHOKE 22uH 2.16A LZ.3A220.A1P HF	
ZD801	093G 60S 31 T	DIODE B360B 3A/60V SMB	
E715	715G3823P01000004S	CONVERTER PCB BOARD PCB	
C503	065G0603104 12	CER2 0603 X7R 16V 100N P	
C501	065G0603509 31	CHIP 5PF +-0.5PF 50V NPO	
C502	065G0603509 31	CHIP 5PF +-0.5PF 50V NPO	
FB501	071G 56K121 M	CHIP BEAD	
	715G3501 2	USB BOARD PCB	
CN901	006G 31500	EYELET	
IC903	056G 158 10 T	IC AS431AZTR-E1 TO-92	
Q901	057G 530503 T	2SD1207T	
R919	061G152M10452T SY	RST MOFR 100KOHM +-5% 2WS FUTABA	
R918	061G152M25152T SY	RST MOFR 250 OHM +-5% 2WS	
C906	065G 2K152 2T6921	CAP CER 1500pF K 2KV Y5P	
C913	067G 2046812KT	CS CAP 680uF 10V 8*11 mm	
C908	067G 2154707NT	KY50VB47M-TP5 6.3*11	
C613	067G215Y1014KT	EC CAP.105 度	
C604	067G215Y1014KT	EC CAP.105 度	
FB902	071G 55 9 T	FERRITE BEAD	
FB602	071G 55 29	FERRITE BEAD	
FB603	071G 55 29	FERRITE BEAD	
F901	084G 55 5	FUSE 2.50A 250V	
F902	084G 56 4W	FUSE 4.0A 250V	
ZD902	093G 3916752T	MTZJ T-72 16B	
ZD901	093G 39A0852T	GDZJ18B	
D902	093G 6026T52T	RECTIFIER DIODE FR107	
D901	093G 6038T52T	FR103	
D601	093G 64 1152T	1N4148	
J616	095G 90 23	JUMPER WIRE	
J615	095G 90 23	JUMPER WIRE	
J901	095G 90 23	JUMPER WIRE	
J900	095G 90 23	JUMPER WIRE	
J617	095G 90 23	JUMPER WIRE	
J601	095G 90 23	JUMPER WIRE	
J608	095G 90 23	JUMPER WIRE	
J611	095G 90 23	JUMPER WIRE	
J612	095G 90 23	JUMPER WIRE	
J610	095G 90 23	JUMPER WIRE	
J606	095G 90 23	JUMPER WIRE	
J607	095G 90 23	JUMPER WIRE	
J604	095G 90 23	JUMPER WIRE	

J603	095G 90 23	JUMPER WIRE	
J602	095G 90 23	JUMPER WIRE	
J614	095G 90 23	JUMPER WIRE	
J600	095G 90 23	JUMPER WIRE	
J906	095G 90 23	JUMPER WIRE	
J905	095G 90 23	JUMPER WIRE	
J904	095G 90 23	JUMPER WIRE	
J903	095G 90 23	JUMPER WIRE	
J902	095G 90 23	JUMPER WIRE	
J609	095G 90 23	JUMPER WIRE	
	715G3189P01LED001S	POWER BOARD PCB	